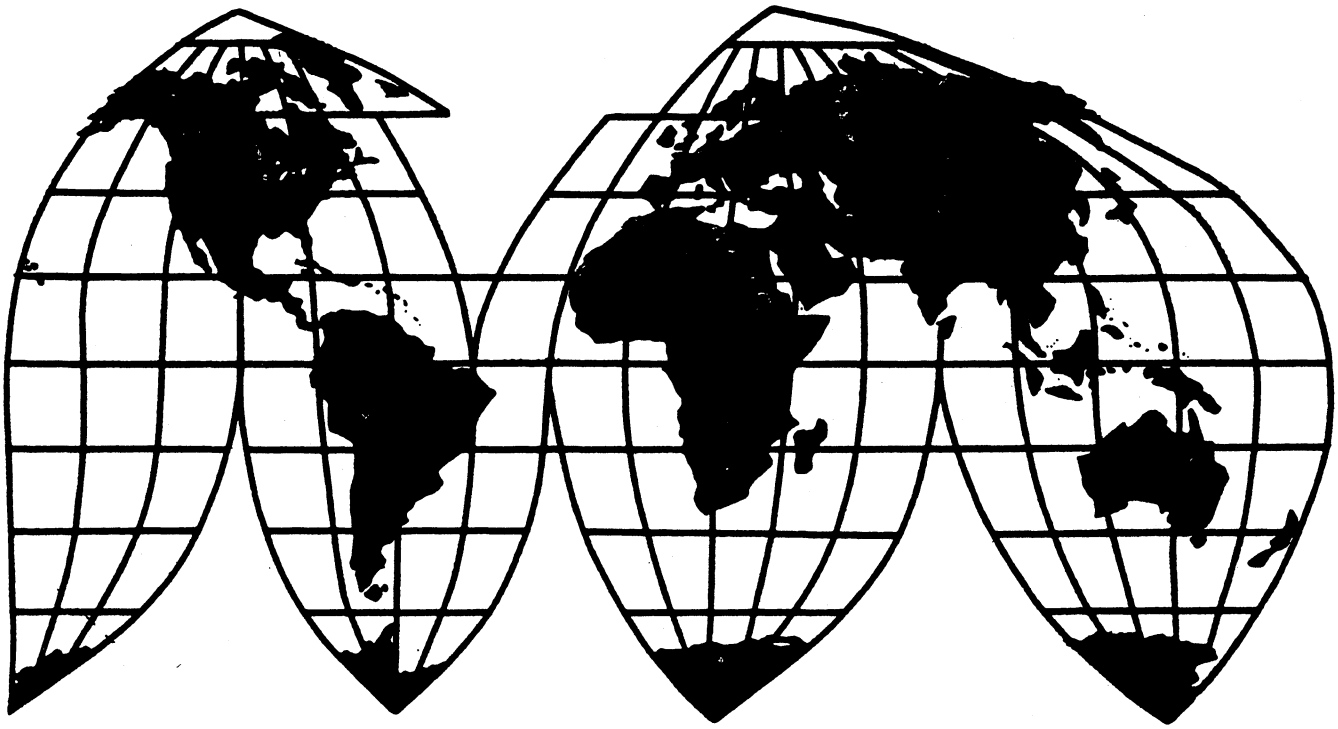
Certain Compact Ductile Iron Waterworks Fittings and Accessories Thereof From The People's Republic of China

Investigation No. 731-TA-621 (Final)

Publication 2671 **August 1993**

U.S. International Trade Commission



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U.S. International Trade Commission

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Note.--Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report. Such deletions are indicated by asterisks.

DETERMINATION AND VIEWS OF THE COMMISSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-621 (Final)

Certain Compact Ductile Iron Waterworks Fittings
and Accessories Thereof from the People's Republic of China

Determination

On the basis of the record[1] developed in the subject investigation, the Commission determines,[2] pursuant to section 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1673d(b)) (the Act), that an industry in the United States is threatened with material injury by reason of imports from the People's Republic of China of certain compact ductile iron waterworks fittings, provided for in subheading 7307.19.30 of the Harmonized Tariff Schedule of the United States (HTS), that have been found by the Department of Commerce to be sold in the United States at less than fair value (LTFV). The Commission further determines, pursuant to 19 U.S.C. § 1673(b)(4)(B), that it would not have found material injury but for the suspension of liquidation of entries of the merchandise under investigation.

The Commission further determines, pursuant to section 735(b) of the Act, that an industry in the United States is materially injured by reason of imports from the People's Republic of China of cast iron glands for such fittings,[2] provided for in subheading 7325.99.10 of the HTS, that have been found by the Department of Commerce to be sold in the United States at LTFV. The Commission also determines, pursuant to 19 U.S.C. § 1673d(b)(4)(A), that

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[1] The record is defined in sec. 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR § 207.2(f)).

[2] Commissioner Anne E. Brunsdale and Commissioner Carol T. Crawford dissenting.

critical circumstances do not exist with respect to imports of such merchandise; thus, the retroactive imposition of antidumping duties is not necessary.

The Commission further determines, pursuant to section 735(b) of the Act, that an industry in the United States is not materially injured or threatened with material injury, and the establishment of an industry in the United States is not materially retarded, by reason of imports from the People's Republic of China of accessory packs, for which separate components are provided for in subheadings 4016.93.00, 7318.15.20, and 7325.99.10 of the HTS, that have been found by the Department of Commerce to be sold in the United States at LTFV.

Background

The Commission instituted this investigation effective February 9, 1993, following a preliminary determination by the Department of Commerce that imports of certain compact ductile iron waterworks fittings and accessories thereof from the People's Republic of China were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. § 1673b(b)). Notice of the institution of the Commission's investigation and of a public hearing to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of March 10, 1993 (58 F.R. 13278). The hearing was held in Washington, DC, on July 8, 1993, and all persons who requested the opportunity were permitted to appear in person or by counsel.

VIEWS OF THE COMMISSION

Based on the record in this final investigation, we determine that an industry in the United States is threatened with material injury by reason of imports of iron waterworks fittings from the People's Republic of China that the Department of Commerce ("Commerce") has found to be sold at less than fair value ("LTFV").[1] We also determine that an industry in the United States is materially injured by reason of LTFV imports of iron glands from China.[2] Finally, we determine that a domestic industry in the United States is neither materially injured nor threatened with material injury by reason of LTFV imports of accessory packs from China.[3]

I. Like Product[4]

To determine whether an industry in the United States is materially injured or is threatened with material injury by reason of the subject imports, the Commission must first define the "like product" and the "industry." Section 771(4)(A) of the Tariff Act of 1930 (the "Act") defines the relevant domestic industry as "the domestic producers as a whole of a like product, or those producers whose collective output of the like product constitutes a major proportion of the total domestic production of that product . . . ."[5] In turn, the statute defines "like product" as "a product

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[1]Commissioners Brunsdale and Crawford do not join in this finding. See Dissenting Views of Commissioner Brunsdale and Commissioner Crawford, infra.

[2]Commissioners Brunsdale and Crawford do not join in this finding. See Dissenting Views of Commissioner Brunsdale and Commissioner Crawford, infra.

[3]19 U.S.C. § 1673d(b)(1). Material retardation of the establishment of an industry is not an issue in this investigation.

[4]Commissioner Brunsdale does not join this portion of the opinion.

[5]19 U.S.C. § 1677(4)(A).

which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation . . . ."[6]

The Commission's like product determinations are factual in nature, and the Commission applies case-by-case the statutory standard of "like" or "most similar in characteristics and uses".[7] Generally, the Commission disregards minor variations among the articles subject to an investigation and looks for clear dividing lines between possible like products.[8] While the Commission accepts Commerce's determination as to which imported articles are within the class of merchandise sold at LTFV, the Commission determines which domestic products are like the ones in the class or classes defined by Commerce. The Commission may define the domestically-produced like product more broadly than the class of articles described by Commerce or may find two or more like products corresponding to such a class.[9]

In this final investigation, Commerce defined the class or kind of merchandise subject to investigation as follows:

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[6]19 U.S.C. § 1677(10).

[7]Asociacion Colombiana de Exportadores de Flores, et al. v. United States, 693 F. Supp. 1165, 1169 (Ct. Int'l Trade 1988)("Asocoflores"). In analyzing which domestic products are "like" the class or kind of imported articles subject to investigation, the Commission considers factors including: (1) physical characteristics and uses; (2) interchangeability of the products; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) the use of common manufacturing facilities and production employees; and where appropriate, (6) price. Generally, the Commission requires "clear dividing lines among possible like products" and disregards minor variations among them. See Torrington v. United States, 747 F. Supp. 744, 748-749 (Ct. Int'l Trade 1990), aff'd, 938 F. 2d 1278 (Fed. Cir. 1991).

[8]See S. Rep. No. 249, 96th Cong., 1st Sess. 90-91 (1979).

[9]E.g., Algoma Steel Corp., Ltd. v. United States, 688 F. Supp. 639 (Ct. Int'l Trade), aff'd, 865 F.2d 240 (Fed. Cir. 1988), cert. denied, 109 S. Ct. 3244 (1989).

> 1) certain compact ductile iron waterworks (CDIW) fittings of 3 to 16 inches nominal diameter regardless of shape, including bends, tees, crosses, wyes, reducers, adapters, and other shapes, whether or not cement lined, and whether or not covered with bitumen or similar substance, conforming to AWWA/ANSI specification C153/A21.53, and rated for water working pressure of 350 PSI; and 2) certain CDIW fittings accessories which typically consist of a standard ductile iron gland, a styrene butadiene rubber (SBR) gasket, the requisite number of Cor-Ten steel or ductile iron T-head bolts, and hexagonal nuts, for fittings in sizes 3 to 16 inches, conforming to American Water Works Association/American National Standards Institute (AWWA/ANSI) specification C111/A21.11, and rated for water working pressure of 350 PSI. Gaskets, bolts and nuts are only included if they are imported as an accessory pack with a gland. However, glands imported separately are included in the scope of investigation.[10]

Waterworks fittings are pipe fittings used to join pipes and other waterworks products in municipal water distribution systems. Products for use in waterworks systems have traditionally been manufactured of cast iron, which is available as gray iron or ductile iron.[11] Waterworks fittings can also be purchased in either full-bodied or compact designs. Compact fittings have a shorter body design, or lay-length, and thinner walls than full-bodied fittings and, therefore, are approximately half the weight of full-bodied fittings. Because fittings are sold on the basis of weight, full-bodied fittings generally are more expensive than compact fittings.[12] All waterworks fittings and accessories must conform to standards set by the American Waterworks Association (AWWA) and the American National Standards Institute (ANSI), the standards setting bodies for the waterworks industry.

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[10]58 Fed. Reg. 37908 (July 14, 1993).

[11]Report at I-5. Ductile iron is stronger, more flexible and more resistant to corrosion and therefore is becoming increasingly popular with end users.

[12]Report at I-5.

Waterworks fittings are used with certain accessories which attach the fittings to pipes and other waterworks products. These accessories consist of a standard ductile iron gland,[13] a styrene butadiene rubber ("SBR") gasket, and a number of Cor-Ten steel or ductile iron T-head bolts.[14] Accessories are sold both separately and together in kits, called "accessory packs," but T-head bolts, nuts, and gaskets are included in Commerce's scope only when sold as an "accessory pack."[15] Iron glands, however, are included in the scope when sold separately.

In this final investigation we find three like products: (1) all iron waterworks fittings; (2) all iron glands; and (3) accessory packs. In defining the like products, we considered three principal like product issues: (1) whether the like product corresponding to CDIW fittings includes full-bodied fittings, gray iron fittings, and fittings over 16 inches in nominal diameter; (2) whether iron glands are a separate like product or should be included in the same like product as iron waterworks fittings or accessory

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[13]A gland is a ring of metal used, along with other accessories, to connect waterworks products to each other.

[14]The scope of this investigation includes two types of CDIW fittings, mechanical joint fittings, which account for approximately 90 percent of domestic consumption, and push-on fittings. Both are made of the same materials and used for the same applications. Mechanical joint fittings use four types of accessories while push-on fittings use only one accessory, a rubber gasket.

[15]In the preliminary determination, the Commission found four separate like products: (1) all iron waterworks fittings; (2) iron glands; (3) SBR gaskets; (4) Cor-Ten steel or ductile iron T-head bolts and hexagonal nuts. Preliminary determination at 11. We found the domestically-produced product like the imported CDIW fittings to be all iron waterworks fittings and found each type of accessory to be a separate like product. At petitioners' request, Commerce amended the portion of its scope determination concerning accessories after the Commission made its preliminary determination to remove T-head bolts, nuts, and gaskets when sold separately. Glands, however, are included in the scope as individual items. See 58 Fed. Reg. 37908 (July 14, 1993).

packs; and (3) whether fittings accessories when sold in an accessory pack are a separate like product or are the same like product as either iron waterworks fittings or iron glands. Petitioners argue that the Commission should find a single like product consisting of CDIW fittings 16 inches and under in diameter and glands and accessory packs for use with such fittings. Respondents did not appear at the hearing or submit briefs in this final investigation.

A. Whether the Like Product Corresponding to CDIW Fittings Includes Other Types of Waterworks Fittings

(1) **Whether to Include Full-bodied Fittings in the Like Product**

In this final investigation, we include full-bodied ductile iron waterworks fittings as well as CDIW fittings in the like product because they have similar characteristics and uses, are interchangeable to some degree, are produced using common manufacturing facilities and production employees, and are sold through the same channels of distribution.

Compact and full-bodied fittings have many physical characteristics in common. Both have essentially the same shape, but differ somewhat in design and differ greatly in weight. As compared to compact fittings, full-bodied fittings are far bulkier, thicker walled, heavier, and have a longer laying length.[16] Full-bodied fittings must conform to AWWA/ANSI's C110 standard, while compact fittings conform to a separate standard, AWWA/ANSI C153. The two standards, however, provide that both full-bodied fittings and compact fittings can be used with the same accessories, thus making them

[16]Tr. at 13.

interchangeable with each other with respect to the configuration of their joints.[17]

Both compact and full-bodied fittings have similar end uses.[18] Both are sold in the market for construction of new municipal water systems and other construction projects and in the replacement market. Whether compact or full-bodied fittings are initially selected is often a matter of the preferences of contractors and engineers, although there are certain situations in which it is necessary to use either a full-bodied or compact fitting.[19] For example, certain heavy-duty applications, such as the construction of water systems in earthquake zones, may require full-bodied fittings.[20]

Even petitioners concede that the two types of fittings are interchangeable, although not completely so.[21] There is somewhat less interchangeability with respect to fittings sold in the replacement market

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[17]See American National Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and Other Liquids and American National Standard for Ductile-Iron Compact Fittings, 3 in. through 16 in., for Water and other Liquids.

[18]Report at I-11. Producers of waterworks fittings generally indicated full-bodied and compact fittings were physically different, but that the uses of the two types of fittings are "similar," "identical," or "the same." Report at Appendix C.

[19]Tr. at 87-88. While customers often have a preference for either compact or full-bodied fittings, we note the Court of International Trade has stated that "[i]f one has to choose a single basis upon which to make a like product determination, consumer preference would seem to be a poor choice." Asociacion Colombiana de Exportadores v. United States, 693 F. Supp. 1165, 1168 (Ct. Int'l Trade 1988).

[20]Tr. at 88 and 13. Other limits to interchangeability are that full-bodied fittings cannot be used with a type of plastic pipe known as polyvinalchloride or PVC pipe while compact fittings can. In addition, some municipalities have not rewritten their specifications to allow the use of CDIW fittings. Report at I-15 & Conference Tr. at 74-77.

[21]Tr. at 57.

than in the market for new construction, because the shorter lay lengths of compact fittings may limit interchangeability if the water pipe in the system is not also being replaced.[22]

The channels of distribution for compact fittings and full-bodied fittings are the same. Both are sold either through distributors known as waterworks houses[23] or to end users through a bidding process.

There is little difference in the process used to make the two types of fittings. Machinery, equipment, and manufacturing employees used to produce the two types of fittings are similar or the same.[24]

Although there is evidence to suggest that certain customers perceive compact and full-bodied fittings to be different, a number of purchasers reported that the fittings were interchangeable with full-bodied fittings. Moreover, approximately half indicated that they would consider switching in

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[22]Tr. at 57; 64-65. However, petitioners testified at the hearing that "Replacements are often emergency repairs. And if the full-body fitting is not in stock, you don't let the water main wash the street away. So you go ahead and replace it with what's immediately available." Tr. at 90.

[23]These distributors generally are not owned by or affiliated with waterworks producers, but typically stock primarily the line of one producer. Tr. at 22.

[24]Report at Appendix C. Petitioners assert that production processes and manufacturing facilities differ because the production of full-bodied fittings is more labor intensive and expensive, because they are produced in lower volume batch-type operations, while production of compact fittings is more automated. Tr. at 15. Petitioners acknowledged, however, that it would be possible for them to automate production lines for full-bodied fittings or to retool existing automated lines to produce compact fittings manually. Petitioners' Post-Conference Brief at 14-15; Conference Tr. at 18 & 52. Six of the seven producers stated that the machinery and equipment used to produce the two types of products were the same, although three producers mentioned different pattern and corebox equipment. Id.

response to a sufficient change in the relative prices of the two types of fittings.[25]

Because fittings are sold on the basis of weight, full-bodied ductile iron fittings are more expensive than compact fittings of the same nominal diameter.[26] However, we do not find this factor to outweigh the other factors that indicate that full-bodied fittings should be included within the like product.

(2) **Whether to Include Gray Iron Fittings in the Like Product**

In this final investigation, we include gray iron fittings in the like product because they are interchangeable to some degree with ductile iron fittings, are produced using common manufacturing facilities and production employees, and are sold through the same channels of distribution.

Both gray iron and ductile iron are used in municipal water systems because of their strength and resistance to corrosion.[27] Gray iron was the cast iron product initially used in such older systems, but ductile iron has been replacing gray iron because ductile iron is stronger, lighter, and more flexible.[28] The differences in the physical properties of the two types of iron are illustrated by the fact that for the three to twenty-four inch size range, ductile iron fittings are rated for 350 psi working pressure while gray iron fittings are rated for 150 to 250 psi working pressure.

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[25]Questionnaire Responses.

[26]Report at Table 38.

[27]Report at Appendix C.

[28]Report at Appendix C. Gray iron is produced by adding a closely controlled amount of magnesium alloy to a molten iron of low phosphorous and low sulfur content. Tr. at 12-13.

U.S. producers generally reported that, while a compact ductile fitting and a gray iron fitting of comparable size are interchangeable in most applications, the CDIW fitting is likely to be the product of choice in new construction because of its superior strength, higher pressure rating, and greater ease of use.[29] Thus, customers often have preferences, but nevertheless consider the two types of fittings somewhat interchangeable.

The production processes for gray iron and ductile iron fittings differ primarily in the use of a different type of iron, although some producers mentioned additional production steps and stricter quality control in producing ductile iron fittings.[30] Most domestic producers described the machinery and equipment used in producing both types of fittings as generally the same, although several mentioned the need for additional equipment to produce ductile iron fittings.[31] Petitioners argue that ductile iron fittings production is more automated than that for gray iron fittings. This is a result of the quantities of fittings produced, however, rather than an intrinsic part of the production process.

The channels of distribution are the same for gray and ductile iron fittings; the vast majority of each is sold through distributors, although some are sold directly to end users through bidding.[32] Because they are

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[29]Report at I-12.

[30]Report at Appendix C.

[31]Report at Appendix C.

[32]As we note in our discussion of fittings over 16 inches in nominal diameter, a greater proportion of large diameter fittings may be sold directly to end users through bidding.

heavier than ductile iron fittings, gray iron fittings generally are more expensive than ductile iron fittings.[33]

(3) Whether To Include Fittings Over 16 Inches in Nominal Diameter In The Like Product

In this final investigation, we also include fittings over 16 inches within the like product, because the size limits proposed by petitioners do not constitute a sufficiently clear dividing line to warrant exclusion in light of the similarities in the two types of fittings.[34] While differences exist with respect to price and possibly channels of distribution, and fittings of different sizes are interchangeable to a limited degree, the similarities in production processes, physical characteristics and uses, and customer and producer perceptions justify including them in the same like product.[35]

The only difference in physical characteristics for waterworks fittings above and below 16 inches in nominal diameter reported by producers was the difference in the size of the openings.[36] The current AWWA/ANSI standard for compact fittings does not include fittings over 16 inches in nominal diameter, but the standard for full-bodied fittings does.[37]

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[33]Report at Table 38.

[34]See, e.g., Polyethylene Terephthalate Film, Sheet, and Strip from Japan and the Republic of Korea, Inv. Nos. 731-TA-458 and 459 (Final), USITC Pub. 2383 (May 1991).

[35]In previous investigations the Commission has been reluctant to draw like product distinctions based on product size alone. See, e.g., Heavy Forged Handtools from the People's Republic of China, Inv. No. 731-TA-457 (Final), USITC Pub. 2357 (February 1991) at 7-8.

[36]Report at Appendix C.

[37]Compare American National Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and Other Liquids with American National Standard for Ductile-Iron Compact Fittings, 3 in. through 16 in., for Water and Other Liquids.

Petitioners argue that waterworks fittings with a nominal diameter greater than 16 inches have a different end use than fittings with a nominal diameter of 16 inches or less.[38] Most U.S producers and importers, however, reported that under 16 inch and over 16 inch waterworks fittings are used in the same applications. One producer reported that the smaller sizes (6 to 8 inches) are used for distribution purposes, whereas the larger sizes (18-24 inches) are used for transmission or feeder lines. Two producers and one of the importers reported that the job specifications determine the size of the fitting used.[39]

The interchangeability of the various types of waterworks fittings is generally determined by the engineering specifications of the particular project in which they are employed. There is some interchangeability between fittings of roughly similar sizes. For example, by using a reducer fitting, a six-inch fitting might be used to replace an eight-inch fitting. The record does not support a finding, however, that there is interchangeability between any fittings that differ greatly in size, because of flow requirements.[40] [41]

Production processes for all sizes of waterworks fittings are very similar, except that production lines producing the larger volume, smaller

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[38]Petitioners' Prehearing Brief at 29.

[39]Report at I-55 to I-56.

[40]Report at I-11.

[41]Petitioners allege that the larger sized fittings have different channels of distribution, because waterworks up to 16 inches in nominal diameter are sold through distributors, while pipes and fittings in diameters greater than 16 inches often are sold for large, municipal public works projects that are bid as a package consisting of pipes, fittings and accessories. Report at I-16 to I-17; Tr. at 83.

fittings are more automated.[42] Once again, the volume of the product produced, however, is important in determining whether production will be automated or performed manually.[43]

Producers and customers perceive the two sizes similarly. Most of the producers of waterworks fittings reported that fittings larger than 16 inches in nominal diameter and smaller diameter fittings had similar physical characteristics and end uses.[44] Fifteen out of twenty-one purchasers stated that iron waterworks fittings over 16 inches are used in the same applications as are iron waterworks fittings with a diameter of 16 inches and under.[45]

Because fittings are sold by weight, the prices for larger fittings are generally much higher than for smaller diameter fittings.[46] Nevertheless, due to the similarities in production processes, physical characteristics and uses, and customer and producer perceptions, we include fittings over 16 inches in nominal diameter within the like product.

B. Whether Iron Glands Are a Separate Like Product or the Same Like Product as Iron Waterworks Fittings

Petitioners urge the Commission to find that glands should be included with iron waterworks fittings in a single like product.[47] In light of their

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[42]But Cf. Butt-Weld Pipe Fittings from China and Thailand, Inv. Nos. 731-TA-520 and 521 (Final), USITC Pub. 2528 (June 1992)(Commission found like product to be limited to carbon steel butt-weld pipe fittings having an inside diameter of less than 14 inches, in part because larger diameter fittings were produced on significantly different machinery and equipment).

[43]Report at Appendix C.

[44]Report at Appendix C.

[45]Responses to purchaser questionnaires.

[46]Report at Table 38.

[47]Tr. at 17 & 26-27.

significant differences with respect to almost every like product factor, we find that glands are a separate like product from waterworks fittings.

Waterworks fittings are used to join two or more pipes or to join pipes to other waterworks products. Glands (and other accessories) are used to secure those fittings to either the pipe or other waterworks products. Thus, while their uses are related and complementary, their specific use is not the same. In addition, glands are used to secure other waterworks products in waterworks systems, such as valves and hydrants, as well as fittings. Glands and fittings share certain physical characteristics because both are made from either gray or ductile iron, but they have different shapes, are very different in appearance, and are covered by different AWWA/ANSI standards.[84] In terms of physical characteristics and uses, therefore, there are more differences than similarities between glands and waterworks fittings.

Fittings and glands (like other accessories) are not interchangeable, but are sold through the same channels of distribution, i.e., through waterworks distributors and directly to end users.[85] Petitioners assert that the vast majority of fittings and accessories are sold together as a package,[86] but acknowledge that fittings are sometimes sold separately from glands because distributors stock glands and other accessories separately.

Glands, like fittings, are cast in foundries on either automatic or manual production lines.[87] The production process for the glands, like that

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[84]Glands and other waterworks fittings accessories are covered by the AWWA/ANSI C111 standard while fittings must meet either the C110 or C153 standards.

[85]Report at I-12.

[86]Report at I-25.

[87]Report at I-19.

for fittings, includes making the mold, and casting and finishing the product.[88] Unlike fittings, however, glands are not lined with cement, but may be coated with bitumen to prevent corrosion. Five of the eight producers of iron waterworks fittings also produce iron glands. However, only four produce glands in the same establishment, and using the same production equipment on which they produce fittings.[89] At least one producer of iron glands does not produce waterworks fittings.[90]

The price differential for fittings and glands is quite large, with fittings often priced approximately ten times higher than glands of corresponding size.[91]

Based on the discussion above, we find iron glands to be a separate like product from iron waterworks fittings. They have different physical characteristics and uses, are not interchangeable, have different purchaser and producer perceptions, and differ dramatically in price. In light of these differences, we do not believe that the fact that they share certain production processes or are sold through the same channels of distribution is sufficient to warrant including them in the same like product.[92] Because we

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[88]Report at I-19.

[89]Report at Table 1.

[90]Report at Table 1.

[91]See Report at Tables 27, 28, 29, 30, 32, & 33.

[92]Petitioners assert that a primary reason for including glands in the same like product as fittings is that CDIW fittings cannot function properly without iron glands. But see Digital Readout Systems and Subassemblies Thereof from Japan, Inv. No. 731-TA-390 (Final), USITC Pub. 2150 (January 1989)(Commission rejected petitioners' argument that two products used together constituted a single like product when both products were subject to investigation).

included gray iron fittings in the fittings like product, we also include gray iron glands in the like product consisting of iron glands.

C. Whether Accessory Packs Are a Separate Like Product or the Same Like Product as Iron Waterworks Fittings or Iron Glands

In light of their significant differences in physical characteristics and uses, lack of interchangeability, and differences in production processes, customer and producer perceptions and price, we find that accessory packs are a separate like product from either iron glands or iron waterworks fittings.[93] Accessory packs are packages containing all of the items needed to attach the waterworks fitting to a water line. Accessory packs and glands share certain physical characteristics because the accessory pack includes a gland. An accessory pack, however, has certain additional physical characteristics because it includes other items, i.e., T-head bolts, nuts and a gasket.[94] All of the items have the same general "use" in that they are all used to attach waterworks fittings to other waterworks products, but all of the items have different functions in making the connection. Thus, glands and accessory packs are not interchangeable.

Both glands and accessory packs generally are sold through either waterworks distributors or directly to end users. Glands that ultimately will be packaged in accessory packs, however, may be sold to packaging companies or

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[93]As the discussion makes clear, accessory packs are no more "like" iron waterworks fittings than are iron glands. Accordingly, we direct our attention to the similarities and differences between accessory packs and glands.

[94]The specifications for all of the accessories are included in the same AWWA/ANSI standard. Report at I-7.

to other fittings manufacturers before they are sold either to distributors or end users.[95]

For accessory packs and iron glands, there is some degree of overlap in manufacturing processes and equipment with respect to the manufacture of glands.[96] Accessory packs, however, also contain steel nuts and bolts and a rubber gasket. Completely different production equipment and processes are necessary for the production of such nuts, bolts, and gaskets. Accessory packs also require some degree of assembly. The price of a gland is generally between 50 and 70 percent of the price of an accessory pack.[97]

II. Domestic Industries

In this final investigation we find three domestic industries corresponding to the three like products: the domestic producers of (1) iron waterworks fittings, (2) iron glands, and (3) accessory packs. We now address whether a particular producer of iron waterworks fittings and glands should be excluded from those domestic industries as a related party. Secondly, we address the issue of who are the domestic producers of accessory packs.

A. Related Parties

The related parties provision, section 771(4)(B) of the Tariff Act of 1930, allows for the exclusion of certain domestic producers from the domestic industry for the purposes of an injury determination. Applying the provision involves two steps. First, the Commission must determine whether a domestic producer meets the definition of a related party. If a producer is "related"

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[95]Conference Tr. at 54; Questionnaire Responses.

[96]See previous section for discussion of the production processes for glands.

[97]Report at I-42.

under section 771(4)(B), the Commission then determines whether "appropriate circumstances" exist to exclude that producer from the definition of the domestic industry.[98] Exclusion of a related party is within the Commission's discretion based upon the facts presented in each investigation.[99]

In this investigation, one producer of iron fittings and glands shares common ownership of a waterworks distributor with an importer of subject CDIW fittings from China, and also purchases subject iron glands from that importer.[100] This producer is thus a related party in the fittings and gland industries. We therefore must decide whether appropriate circumstances exist to exclude it from the domestic industries producing iron waterworks fittings or iron glands.

According to information collected in this investigation, this producer accounted for a small percentage of total U.S. iron waterworks fittings production and iron gland production over the period of investigation; thus neither its inclusion in nor exclusion from the domestic industry will skew the overall industry data.[101] There also is no evidence to suggest that it

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[98]19 U.S.C. § 1677(4)(B).

[99]See Torrington Co. v. United States, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), aff'd, Nos. 92-1383 and -1392 (Fed. Cir., Mar. 5, 1993); Sandvik AB v. United States, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), aff'd without opinion, 904 F.2d 46 (Fed. Cir. 1990); Empire Plow Co. v. United States, 675 F. Supp. 1348, 1352 (Ct.Int'l Trade 1987). The rationale for the related parties provision is the concern that domestic producers that are related parties may be in a position that shields them from any injury that might be caused by the imports. See S. Rep. No. 249, 96th Cong., 1st Sess. 83 (1979). Thus, including these parties within the domestic industry would cause the industry to appear healthier than it in fact is. See, e.g., Sandvik, 721 F. Supp. at 1331-32 (related party appeared to benefit from dumped imports).

[100]Report at I-17, n. 39

[101]Questionnaire Responses.

has been shielded from any detrimental effects of LTFV imports from China as a result of its related party status. We therefore decline to exclude this producer from either the domestic industry producing iron waterworks fittings or the domestic industry producing iron glands.

B. Domestic Industry Producing Accessory Packs

No producer of either waterworks fittings or glands currently produces all the articles contained in an accessory pack and only one producer actually assembles accessory packs. We therefore must consider: (1) whether the manufacturers of the articles contained in the accessory packs, and (2) whether the companies that package such articles, are part of the domestic industry producing accessory packs. We include the producers of iron glands, T-head bolts, and SBR gaskets in the domestic industry producing accessory packs because we find them to be engaged in domestic production.[102] However, we decline to include packaging companies within the domestic industry because we find that their activities do not constitute production.

In deciding whether a firm qualifies as a domestic producer, the Commission has analyzed the overall nature of a firm's production-related activities in the United States.[103] Information collected in this

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[102]Because it has not been possible to aggregate trade data for the producers of the accessory packs, we have discussed the various segments of the industry producing accessory packs separately. By doing so we do not intend to suggest that individual accessories constitute separate like products. Compare Uranium for the U.S.S.R., Inv. No. 731-TA-539 (Preliminary), USITC Pub. 2471 (December 1991), at 18; Certain Telephone Systems and Subassemblies Thereof From Japan and Taiwan, Inv. Nos. 731-TA-426 and 428 (Final), USITC Pub. 2237 (November 1989) at 17-25.

[103]Specifically, the Commission has examined such factors as: (1) the extent and source of a firm's capital investment; (2) the technical expertise involved in U.S. production activity; (3) the value added to the product in the United States; (4) employment levels; (5) the quantities and types of parts sourced in the United States, and (6) any other costs and activities in the United States directly leading to production of the like product, including where production decisions are made. E.g., DRAMs of One Megabit and

investigation reveals that, for accessory packs for 6 or 8 inch CDIW fittings, the glands accounted for between 50 and 70 percent of the purchase price.[104] T-head bolts and the SBR gasket together account for most of the remainder of the price.[105]

Producers of fittings and glands generally purchase rubber gaskets, bolts and nuts from unrelated producers. They then sell or send on consignment the individual items to a packaging company which assembles the components into accessory packs and returns the completed accessory pack to the fittings producer.[106] Packaging companies generally supply only labor and packaging materials, which make up a small percentage of the cost of the accessory pack.[107]

Thus, we find that the mere packaging of purchased components into an accessory pack is a relatively minor finishing operation and does not involve

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Above from the Republic of Korea, Inv. No. 731-TA-556 (Preliminary), USITC Pub. 2519 (June 1992) at 11-12. The Commission has emphasized that no single factor -- including value added -- is determinative, and that value added information becomes more meaningful when other production activity indicia are taken into account. See, e.g., Color Television Receivers from the Republic of Korea and Taiwan, Inv. Nos. 731-TA-134 and 135 (Final), USITC Pub. 1514 (May 1984) at 7, 8. The Commission also has stated that it will consider any other factors it deems relevant in light of the specific facts of any investigation. Erasable Programmable Read Only Memories from Japan, Inv. No. 731-TA-288 (Final), USITC Pub. 1927 (Dec. 1986).

[104]Report at I-42.

[105]Three of the producers of standard ductile iron glands sell accessory packs along with CDIW fittings. One ductile iron gland producer sells its fittings with glands, but does not sell accessory packs. Only one gland producer assembles accessory packs, and no domestic gland producer currently produces nuts, bolts or gaskets contained in the packs.

[106]Conference Tr. at 54; questionnaire responses.

[107]We note that the number of employees engaged in packaging operations is also relatively small.

sufficient production-related activity to warrant inclusion of accessory pack assembly operations in the domestic industry.

III. Condition of the Domestic Industries

In determining whether the domestic industry is materially injured by the LTFV or subsidized imports from the subject countries, the Commission considers all relevant economic factors which have a bearing on the state of the industry in the United States. These include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital and research and development. No single factor is determinative, and the Commission considers all relevant factors "within the business cycle and conditions of competition distinctive to the affected industry."[108] In evaluating the condition of the domestic industry, we look at the domestic industry as a whole.[109]

A. Condition of the Domestic Iron Waterworks Fittings Industry

A condition of competition in this industry is that the demand for iron waterworks products depends upon the level of construction and replacement of municipal water distribution systems.[110] Over the period of investigation there is evidence of fewer housing starts and delayed funding for capital spending projects by municipalities.[111] Consequently, the iron waterworks

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[108]Id.

[109]Welded Steel Pipe from Malaysia, Inv. No. 731-TA-644 (Preliminary), USITC Pub. 2620 (April 1993) at 19-20 and n.79 ("The Commission may take into account the departures from an industry or the unique circumstances of individual companies, but ultimately must assess the condition of the industry as a whole, and not on a company -by-company basis."), citing, Metallverken Nederland B.V. v. United States, 728 F. Supp. 730, 735 (Ct. Int'l Trade 1989).

[110]EC-Q-087 at 18.

[111]Report at I-23.

fittings industry experienced an overall decline in consumption over the period of investigation, although consumption did increase somewhat from 1991 to 1992.[112]

A second condition of competition is an increase in the sales of CDIW fittings relative to sales of all other types of iron waterworks fittings.[113] The percentage of units of waterworks fittings shipped by U.S. producers represented by CDIW fittings not over 16 inches in nominal diameter increased over the period of investigation, as did the volume of subject LTFV Chinese imports, which are exclusively CDIW fittings not over 16 inches in diameter.

All waterworks fittings were full-bodied fittings until CDIW fittings were introduced in the 1970s. Many municipal water authorities and other users of waterworks products did not rewrite their specifications to allow the use of CDIW fittings, however, until 1984, when the AWWA/ANSI promulgated a new standard (C153) for compact fittings. Since the time this standard went into effect, CDIW fittings have gained much wider acceptance and are rapidly replacing full-bodied fittings in the market. Imports of CDIW fittings first entered the market in significant quantities in the mid-1980s.[114]

Evidence collected in this investigation indicates that the domestic industry's production, capacity utilization, shipments, and share of consumption each declined over the period of investigation. Apparent consumption by quantity of all iron waterworks fittings declined by 12.8 percent from 1990 to 1991. Apparent consumption then rose by 6.2 percent from 1991 to 1992, resulting in an overall decrease of 7.3 percent over the three-

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[112]Report at Table D-1.

[113]Report at appendix C; Report at I-23.

[114]Tr. at 18-20.

year period. Apparent consumption was 2.4 percent lower in interim 1993 compared with interim 1992.[115]

At the same time that apparent consumption decreased, U.S. producers' market share measured by quantity also decreased, falling from 96.7 percent in 1990 to 90.0 percent in 1992. U.S. producers' share of apparent consumption was 88.3 percent in interim 1993 compared with 91.8 percent in interim 1992.[116]

Domestic production of iron waterworks fittings declined from 194.5 million pounds in 1990 to 160.2 million pounds in 1991, then increased to 171.8 million pounds in 1992, resulting in an overall decrease of 11.6 percent from 1990 to 1992.[117] Domestic production was 38.9 million pounds in interim 1993 compared with 45.2 million pounds in interim 1992.[118] From 1990 to 1992, U.S. producers' capacity increased by 1.4 percent. However, U.S. producers' capacity utilization fell by 9.1 percent over the same period and fell further from interim 1992 than to interim 1993.[119]

U.S. producers' domestic shipments of waterworks fittings declined from 187.9 million pounds in 1990 to 158.5 million pounds in 1991.[120] Such

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[115]Report at Table D-1. By value, apparent consumption decreased by 4.9 percent from 1990 to 1991 and increased from 1991 to 1992 by 16.2 percent. Apparent consumption was 9.5 percent higher in interim 1993 compared with interim 1992.

[116]Report at Table D-1. By value, U.S. producers' share of apparent consumption declined from 97.0 percent in 1990 to 92.8 percent in 1992 and fell from 94.1 percent in interim 1992 to 92.4 percent in interim 1993. Id.

[117]Report at Table D-1.

[118]Report at Table D-1.

[119]Report at Table D-1.

[120]Report at Table 6.

shipments increased by 2.3 percent to 162.1 million pounds in 1992, resulting in an overall decrease of 13.7 percent for the three-year period. Such shipments were 34.8 million pounds in interim 1993 compared with 36.8 million pounds in interim 1992.[121]

U.S. producers' inventories of all waterworks fittings declined from 56.8 million pounds in 1990 to 51.4 million pounds in 1992, resulting in a decrease of 9.5 percent over the three-year period. Inventories were 53.3 million pounds in interim 1993 compared with 57.4 million pounds in interim 1992.[122] The ratio of inventories to shipments increased from 1990 to 1991, but decreased from 1991 to 1992 and was lower in interim 1993 compared with interim 1992.

The number of production workers, hours worked and the level of total compensation also decreased from 1990 to 1992.[123] The value of U.S. producers' net sales of waterworks fittings decreased from $158.6 million in 1990 to $144.3 million in 1991, but then increased to $157.3 million in 1992 and was $35.1 million in interim 1993 compared with $33.6 million in interim 1992.[124]

The cost of goods sold ("COGS") decreased from $149.8 million in 1990 to $131.7 million in 1991, then increased to $143.0 million in 1992, resulting in an overall decrease of 4.6 percent. COGS was $31.5 million in interim 1993

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[121]Report at Table 6. By value U.S. producers' domestic shipments also decreased from 1990 to 1991 and increased from 1991 to 1992. Those shipments, however, increased by 1.0 percent over the three year period. Shipments by value were higher in interim of 1993 compared with interim 1992.

[122]Report at Table D-1.

[123]Report at Table 10.

[124]Report at Table D-1.

compared with $30.3 million in interim 1992. Unit COGS increased over the three-year period of investigation from $0.81 in 1990 to $0.82 in 1991 and to $0.85 in 1992. Unit COGS was $0.87 in interim 1993 compared with $0.79 in interim 1992. COGS as a percentage of sales decreased from 94.4 percent in 1990 to 91.3 percent in 1991 and further decreased to 90.9 percent in 1992.[125]

Operating income rose from an operating loss of ($2.7 million) in 1990 to a profit of $35,000 in 1991, then further increased to $1.3 million in 1992. Operating income was $108,000 in interim 1993 compared with $185,000 in interim 1992. Operating income as a percentage of net sales, while remaining low, improved somewhat over the three-year period, rising from a loss of (1.7) percent in 1990, to less than 0.05 percent in 1991 and then to 0.8 percent in 1992. This ratio was 0.3 percent in interim 1993 compared with 0.6 percent in interim 1992. Operating losses were incurred by five domestic producers on their iron waterworks fittings operations in 1990, three producers in 1991, and four producers in 1992.[126] The domestic industry's capital expenditures were $6.8 million in 1990, $12.8 million in 1991 and $4.0 million in 1992. Such expenditures were $0.7 million in interim 1993 compared with $1.9 million in interim 1992.[127] [128]

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[125]Report at Table D-1. Selling, general and administrative expenses ("SG&A"), however, increased by 13.5 percent over the three year period and were 11.4 percent higher in interim 1993 compared with interim 1992. Id.

[126]Report at Table 13.

[127]Report at Table D-1.

[128]Based upon examination of the relevant statutory factors and the unique conditions of competition for this industry, Chairman Newquist and Commissioner Rohr conclude that the industry is currently experiencing material injury.

B. Condition of the Domestic Industry Producing Iron Glands

Iron glands are used almost exclusively with waterworks products including fittings, water pipe, valves, and hydrants.[129] Glands, like fittings, are sold in both the new construction market and the replacement or repair market.[130]

While glands sometimes are sold by producers directly to end users in conjunction with fittings, the vast majority of glands sold in the United States, whether domestically produced or imported, are sold through waterworks houses. Iron glands intended for use with waterworks fittings are shipped to distributor customers in loose form (i.e., separate from fittings) or as part of an accessory pack. [131] A small percentage of glands, however, is also sold by gland producers to other domestic producers of waterworks fittings that do not produce either glands or accessory packs.[132]

Unlike fittings, apparent U.S. consumption of iron glands by quantity increased over the period of investigation, decreasing by 12.6 percent from 1990 to 1991, then increasing by 25.9 percent from 1991 to 1992, resulting in an overall increase of 10 percent. Consumption was 21.1 percent higher in interim 1993 compared with interim 1992.[133] U.S. producers' share of such

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[129]Report at I-17. A given fitting may use from two to four glands.

[130]Report at I-17.

[131]Report at I-24.

[132]Report at I-24 to I-25.

[133]Report at Table D-8. By value, consumption decreased by 5.9 percent from 1990 to 1991, then increased by 22.6 percent in 1992, resulting in an overall increase of 15.4 percent over the three year period. Consumption of iron glands by value was 16.5 percent higher in interim 1993 compared with interim 1992.

consumption, however, decreased throughout the period of investigation.[134] By quantity U.S. producers' market share decreased from 97.9 percent in 1990 to 92.5 percent in 1992 and was 92.0 percent in interim 1993 compared with 92.2 percent in interim 1992.[135]

Domestic production of iron glands fell by 9.5 percent from 1990 to 1991, then rose by 5.9 percent in 1992, resulting in an overall decrease of 4.2 percent over the three year period. Domestic production was higher in interim 1993 compared with interim 1992.[136] U.S. producers' average capacity also rose throughout the period of investigation.[137] U.S. producers' rate of capacity utilization, however, fell significantly from 1990 to 1992 and then dropped further in interim 1993, as compared to 1992.[138]

The quantity of domestic producers' U.S. shipments of iron glands decreased by 16.9 percent from 1990 to 1991, then increased by 25.1 percent in 1992, resulting in an overall increase of 4.0 percent over the three year period. Such shipments were 21.0 percent higher in interim 1993 compared with interim 1992.[139] The average unit value of such shipments, however, decreased

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[134]Report at Table D-8.

[135]Report at Table D-8. By value, U.S. producers' share of apparent domestic consumption declined from 97.8 percent in 1990 to 92.8 percent in interim 1993.

[136]Report at Table D-8.

[137]Report at Table D-8.

[138]Report at Table D-8.

[139]Report at Table D-8. By value, U.S. producers shipments also decreased from 1990 to 1991, increased from 1991 to 1992, and were higher in interim 1993 compared with interim 1992.

from 1990 to 1992, but were higher in interim 1993 compared with interim 1992.[140]

U.S. producers' inventories of iron glands rose by 30.0 percent over the three year period of investigation.[141] From interim 1992 to interim 1993, the level of such inventories fell by slightly over 1 percent. The ratio of inventories to production and inventories to shipments increased from 1990 to 1991, then declined from 1991 to 1992 and was lower in interim 1993 compared with interim 1992.[142]

The number of production and related workers employed in the U.S. establishments producing iron glands fell by 12 percent from 1990 to 1991 and fell an additional 4.3 percent from 1991 to 1992. The number of such workers was 24.9 percent higher in interim 1993 compared with interim 1992, but remained at a lower level than in 1990.[143]

The value of net sales of glands increased by 6.4 percent from 1990 to 1991, then decreased by 4.4 percent from 1991 to 1992, resulting in an increase of 1.7 percent over the three year period. The value of net sales was 32.8 percent higher in interim 1993 compared with interim 1992.[144]

COGS increased from 1990 to 1992 by 6.9 percent and was 28.4 percent higher in interim 1993 compared with interim 1992. The ratio of COGS to sales increased from 1990 to 1992, but was lower in interim 1993 compared with

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[140]Report at Table D-8.

[141]Report at Table 9.

[142]Report at Table D-8.

[143]Report at Table D-8.

[144]Report at Table D-8.

interim 1992. [145] The level of SG&A expenses increased by 17.3 percent from 1990 to 1992 and was 23.8 percent higher in interim 1993 compared with interim 1992.[146]

The indicators of financial performance for the domestic industry producing iron glands worsened and the industry experienced operating losses throughout the period of investigation. The magnitude of such losses increased by 644.2 percent over the three year period. The level of losses was 46.0 percent lower in interim 1993 compared with interim 1992.[147] The domestic industry's operating income as a percentage of net sales was negative throughout the period of investigation, with the magnitude of industry losses increasing over the three year period. Such losses were less severe in interim 1993 compared with interim 1992.[148] [149]

The level of capital expenditures increased from 1990 to 1991, then fell in 1992. Such expenditures were 60.1 percent lower in interim 1993 compared with interim 1992.[150]

C. Condition of the Domestic Industry Producing Accessory Packs

As discussed above, the domestic industry producing accessory packs is composed of the domestic producers of iron glands, the domestic producers of

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[145]Report at D-8.

[146]Report at Table D-8.

[147]Report at Table D-8.

[148]Report at Table D-8.

[149]Based upon examination of the relevant statutory factors and the unique conditions of competition for this industry, Chairman Newquist and Commissioner Rohr conclude that the industry is currently experiencing material injury.

[150]Report at Table D-8.

T-head bolts, and the domestic producers of SBR gaskets.[151] The condition of the domestic industry producing iron glands is discussed above and the condition of domestic producers of gaskets and T-head bolts follows.

1. Producers of SBR Gaskets

By volume domestic production of SBR gaskets decreased by 40.1 percent over the three-year period of investigation.[152] The capacity utilization of gasket producers also decreased. Domestic producers' U.S. shipments by quantity decreased from 1990 to 1992, as did end-of-period inventories, and productivity.[153]

The value of net sales of SBR gaskets decreased from 1990 to 1992. COGS also decreased from 1990 to 1992, as did SG&A expenses.[154] Operating income fell from 1990 to 1992. COGS as a percentage of sales increased from 1990 to 1991, then decreased in 1992. Operating income as a percentage of sales was lower in 1991 compared with 1991 and then increased in 1992.[155] Capital expenditures dropped from 1990 to 1991, then rose in 1992.[156]

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[151]The Commission collected data from only those producers of bolts and gaskets that produce such products specifically for waterworks. From the limited information collected in this investigation, only a few producers make such products and those that do, do so exclusively for the waterworks industry. For purposes of this investigation, such information is the best information available but our decision to use such information does not imply that on a fuller record we would find such products to be separate and distinct from other fasteners or other rubber gaskets.

[152]Report at Table D-16.

[153]Report at Table D-16.

[154]Report at Table D-16.

[155]Report at Table D-16.

[156]Capital expenditures were lower in interim 1993 compared with interim 1992.

2. **Producers of T-Head Bolts**

By quantity, domestic production of T-head bolts increased by 42.6 percent from 1990 to 1991 and by 98.0 percent from 1991 to 1992, resulting in an overall increase of 182.5 percent over the three year period. U.S. producers' capacity utilization increased by 6.0 percent from 1990 to 1991 and increased by 56.8 percent from 1991 to 1992.[157] U.S. producers' shipments by quantity also increased greatly from 1990 to 1992 (235.6 percent).[158]

End-of-period inventories decreased from 1990 to 1991, then increased from 1991 to 1992, resulting in an overall increase for the three-year period.[159] The number of production workers, hours worked and total compensation increased from 1990 to 1992.[160]

The value of net sales increased by 24.9 percent from 1990 to 1992.[161] By quantity, net sales increased by 235.6 percent. Operating income as a percentage of net sales decreased from 1990 to 1991, then increased in 1992.[162] [163]

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[157]Report at Table D-15.

[158]By value, U.S. producers' shipments increased by 233.3 percent from 1990 to 1992.

[159]Report at Table D-15.

[160]Report at Table D-15.

[161]Report at Table D-15.

[162]Report at Table D-15.

[163]Based upon examination of the relevant statutory factors and the unique conditions of competition in this industry, including the three distinct segments of the industry, Chairman Newquist and Commissioner Rohr conclude that the industry producing accessory packs is currently experiencing material injury.

IV. Material Injury By Reason of LTFV Imports

In determining whether a domestic industry is materially injured by reason of the imports as to which Commerce has made affirmative determinations, the statute directs the Commission to consider in each case:

> (I) the volume of imports of the merchandise which is the subject of the investigation;
>
> (II) the effect of imports of that merchandise on prices in the United States for like products, and
>
> (III) the impact of imports of such merchandise on domestic producers of like products, but only in the context of production operations within the United States . . . .[164]

In making its determination, the Commission may consider "such other economic factors as are relevant to the determination . . ." but must explain why they are relevant.[165] Although we may consider information that indicates that injury to the industry is caused by factors other than the LTFV imports, we do not weigh causes.[166] The Commission need not determine that imports are "the principal, a substantial or a significant cause of material injury."[167] Rather, a finding that imports are a cause of material injury is sufficient.[168] [169] [170]

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[164]19 U.S.C. §1677(7)(B)(i).

[165]19 U.S.C. § 1677(7)(B).

[166]Citrosuco Paulista S.A. v. United States, 704 F. Supp. 1075, 1101 (Ct. Int'l Trade 1988); Encon Industries Inc. v. United States, Slip Op. 92-164 at 4 and 5 (Ct. Int'l Trade, September 24, 1992).

[167]S. Rep. No. 249, 96th Cong., 1st Sess. 57, 74 and 75 (1979)("Any such requirement has the undesirable result of making relief more difficult to obtain for industries facing difficulties from a variety of sources, industries that are often the most vulnerable to less-than-fair-value imports.").

[168]E.g., Metalverken Nederland, B.V. v. United States, 728 F. Supp. 730, 741 (Ct. Int'l Trade 1989); Citrosuco Paulista S.A. v. United States, 704 F. Supp. 1075, 1101 (Ct. Int'l Trade 1988).

A. No Material Injury By Reason of LTFV Imports of Iron Waterworks Fittings[171] [172]

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[169]Vice Chairman Watson notes that the courts have interpreted the statutory requirement that the Commission consider whether there is material injury "by reason of" the subject imports in a number of different ways. Compare, e.g., United Engineering & Forging v. United States, 779 F. Supp. 1375, 1391 (Ct. Int'l Trade 1989)("rather it must determine whether unfairly-traded imports are contributing to such injury to the domestic industry. Such imports, therefore, need not be the only cause of harm to the domestic industry" (citations omitted)); Metallverken Nederland B.V. v. United States, 728 F. Supp. 730, 741 (Ct. Int'l Trade 1989)(affirming a determination by two Commissioners that "the imports were a cause of material injury"); USX Corporation v. United States, 682 F. Supp. 60, 67 (Ct. Int'l Trade 1988) ("any causation analysis must have at its core, the issue of whether the imports at issue cause, in a non de minimis manner, the material injury to the industry . . .").

Accordingly, Vice Chairman Watson has decided to adhere to the standard provisions, which state that the Commission must satisfy itself that, in light of all the information presented, there is a "sufficient causal link between the less-than-fair-value imports and the requisite injury." S. Rep. No. 249, 96th Cong., 1st Sess. 75 (1979).

[170]Commissioner Brunsdale and Commissioner Crawford note that the statute requires that the Commission determine whether a domestic industry is "materially injured by reason of" the allegedly LTFV imports. Many, if not most, domestic industries are subject to injury from more than one economic factor. Of these factors, there may be more than one that independently is causing material injury to the domestic industry. It is assumed in the legislative history that the "ITC will consider information which indicates that harm is caused by factors other than the less-than-fair-value imports." S. Rep. No. 249 at 58, 75. However, the legislative history makes it clear that the Commission is not to weigh or prioritize the factors that are independently causing material injury. Id. at 57, 74; H.R. Rep. No. 317 at 47. The Commission is not to determine if the allegedly LTFV imports are "the principal, a substantial or a significant cause of material injury." S. Rep. No. 249 at 57, 74. Rather, it is to determine whether any injury "by reason of" the allegedly LTFV imports is material. That is, the Commission must determine if the subject imports are causing material injury to the domestic industry. "When determining the effect of imports on the domestic industry, the Commission must consider all relevant factors that can demonstrate if unfairly traded imports are materially injuring the domestic industry." S. Rep. No. 71, 100th Cong., 1st Sess. 116 (1987)(emphasis supplied).

[171]Vice Chairman Watson and Commissioner Nuzum do not join in this discussion.

[172]Commissioners Brunsdale and Crawford do not join this portion of the Commission's opinion. See their dissenting views.

The subject imports of iron waterworks fittings more than doubled from 1990 to 1992 and declined significantly from interim 1992 to interim 1993.[173] However, despite the rapid 1990 to 1992 increase, such imports achieved a relatively small percentage of domestic consumption.

The volume of subject imports as a share of apparent domestic consumption of iron waterworks fittings increased from 2.4 percent in 1990 to 6.6 percent in 1992 and was 6.5 percent in interim 1993 as compared to 5.3 percent in interim 1992.[174] Conversely, U.S. producers' market share fell from 96.7 percent in 1990 to 93.5 percent in 1991 and declined to 90.0 percent in 1992.[175] U.S. producers' market share continued to fall in interim 1993 when it was 88.3 as compared with 91.8 in interim 1992.

Pricing data suggest that LTFV imports from China, imported in the quantities reported during the period of investigation, did not have significant price suppressing effects on the domestic industry producing iron waterworks fittings during this period. The prices of both the domestic and imported fittings generally rose over the period of investigation.[176] The imported Chinese products, however, were priced below the domestic product in 33 of 39 possible price comparisons.[177] In spite of this underselling, however, the financial condition of the domestic industry improved somewhat over the period of investigation while the volume of LTFV imports increased.

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[173]Report at Table 23.

[174]Report at Table 25.

[175]Report at Table 25. U.S. producers' market share by quantity was also 3.5 percentage points lower in interim 1993 than in interim 1992.

[176]Report at Tables 27, 28, and 29.

[177]Report at Table 36.

Thus, although it is a close question, we find that the current volume of LTFV imports, while increasing rapidly, has not had a sufficient impact on the domestic industry as a whole to warrant a finding that the domestic industry producing iron waterworks fittings is currently suffering material injury by reason of LTFV imports.

B. Material Injury by Reason of LTFV Imports of Iron Glands

The quantity of subject imports of iron glands increased nearly four-fold over the three-year period of investigation. By value, such imports rose nearly fivefold over the same period.[178] By quantity, the market share of U.S. shipments of subject iron glands rose from zero percent in 1990 to 4.9 percent in 1992. By value, it rose from zero percent in 1990 to 4.1 percent in 1992.[179] Subject imports' market share was 1.1 percent by quantity in interim 1993 as compared to 6.3 percent in interim 1992.[180] We find the volume of those imports to be significant.

Evidence collected in this investigation indicates that price competition is relatively important in the market for iron glands, as in the market for iron waterworks fittings.[181] Most of the responding purchasers reported that the quality of the domestic and Chinese product is similar,[182]

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[178]Report at Table 24. The quantity and value of subject imports declined significantly from the interim 1992 period to the interim 1993 period. Id.

[179]Report at Table 26.

[180]Report at Table 26. By value, market share was 4 percentage points lower in interim 1993 than in interim 1992.

[181]Report at Table I-65 to I-66. When asked to rank in order of importance the major factors they considered in deciding from whom to purchase iron waterworks fittings and accessories, purchasers mentioned quality most frequently as an important factor. Price and availability, however, were given almost as often.

[182]Report at I-66, no.95.

and we note that both imported and domestic glands must conform to AWWA/ANSI standards.

Price data collected in this investigation reveal that there has been a significant degree of underselling by the subject imports. Such data show that the imported Chinese products were priced below the domestically-produced products in 24 of 26 comparisons.[183]

The record in this investigation indicates that LTFV imports of iron glands from China have had significant price suppressing effects. As noted earlier, the data concerning the industry's performance showed operating losses throughout the period of investigation despite an increase in shipments and net sales.

Much of the decline in operating income appears to be attributable to increases in the industry's COGS that were greater than the increases in net sales. The fairly widespread underselling by the LTFV imports, in conjunction with price competition in this market and the increase in costs of production for the domestic industry is evidence that the imports suppressed prices to a significant degree. Moreover, LTFV imports of the subject glands from China captured a larger portion of the increase in domestic consumption than did the domestic industry, which is reflected in the industry's relatively low levels of capacity utilization and decreasing employment. Thus, notwithstanding some positive indicators of industry performance, such as an increase in shipments, we conclude that the LTFV imports of iron glands contributed to significant price suppression and adversely affected the industry by depriving it of a

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[183]Report at Table 37. While direct price comparisons were possible only for glands for use with small diameter CDIW fittings, we note that this is a substantial segment of the market and one that is growing in importance.

significant portion of an increase in consumption, both of which are reflected in the weakened financial condition of the industry.

Critical Circumstances

Commerce found, based on the best information available (BIA), that critical circumstances exist with respect to all imports from China.[184] When Commerce makes an affirmative determination with respect to critical circumstances, the Commission must determine, for each domestic industry for which it makes an affirmative injury determination, "whether retroactive imposition of antidumping duties on the merchandise appears necessary to prevent recurrence of material injury that was caused by massive imports of the merchandise over a relatively short period of time."[185] An affirmative critical circumstances determination is a finding that, absent retroactive application of the dumping order for a period 90 days prior to the notice of suspension of liquidation, a surge in LTFV imports will prolong or cause a recurrence of material injury to the domestic industry.[186] The purpose of the provision is to provide relief from effects of massive imports and to deter importers from attempting to circumvent the dumping laws by making massive shipments immediately after the filing of an antidumping petition.[187]

In this investigation, the petition was filed on July 8, 1992 and Commerce suspended liquidation on February 18, 1993, retroactive to November 20, 1992. Thus, retroactive duties would only be imposed on imports entering

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[184]58 Fed. Reg. 37908 (July 14, 1993).

[185]19 U.S.C. § 1673d(b)(4)(A)(i).

[186]19 U.S.C. § 1673d(c)(4).

[187]See H.R. Rep. No. 317, 96th Cong., 1st Sess. 63 (1979).

the United States after November 20, 1992. Given the levels of LTFV imports over the relevant period, we determine that retroactive imposition of antidumping duties on the merchandise is not necessary to prevent recurrence of material injury. We thus make a negative determination with respect to critical circumstances on imports of iron glands from China.

C. No Material Injury by Reason of LTFV Imports of Accessory Packs[188]

We find no material injury to the domestic industry producing accessory packs by reason of LTFV imports from China. In determining whether material injury exists, the Commission must consider the volume of imports, their effect on prices for the like product, and their impact on domestic producers of the like product in the context of U.S. production operations.[189] Because there have been no imports of accessory packs from China over the period of investigation, they have had no volume or price effects or other impact on the United States market.[190]

V. Threat of Material Injury by Reason of LTFV Imports

The statute specifies ten factors that we must consider in making threat determinations. These factors include: (1) any increase in production capacity or existing unused or underutilized capacity in the exporting country likely to result in a significant increase in imports; (2) any rapid increase in United States market penetration and the likelihood that the penetration will increase to an injurious level; (3) the probability that imports of the merchandise will enter the United States at prices that will have a depressing

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[188]Commissioner Brunsdale and Commissioner Crawford join this portion of the opinion.

[189]19 U.S.C. § 1677(7)(B)(i).

[190]Report at I-49, n.70.

or suppressing effect on domestic prices; (4) any substantial increase in inventories of the merchandise in the United States; and (5) any other demonstrable adverse trends that indicate the probability that importation (or sale for importation) of the merchandise (whether or not it is actually being imported at the time) will be the cause of actual injury.[191] It further states that any affirmative threat determination "shall be made on the basis of evidence that the threat of material injury is real and that actual injury is imminent." The Commission's determination "may not be made on the basis of mere conjecture or supposition."[192]

A. Threat of Material Injury by Reason of LTFV Imports of Iron Waterworks Fittings

In our evaluation of threat of material injury by reason of the subject LTFV imports of CDIW waterworks fittings from China, we have considered the conditions of competition distinctive to the waterworks fittings industry as a whole. One such condition of competition, noted previously, has been the growing importance of the segment of the market consisting of CDIW fittings under 16 inches in diameter.

While domestic consumption of all iron waterworks fittings decreased overall during the period of investigation,[193] CDIW fittings not over 16 inches in diameter accounted for an increasing percentage of domestic consumption for each year of the period. The percentage of consumption

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[191]19 U.S.C. § 1677(7)(F). Because these investigations concern neither subsidy allegations nor agricultural products, the first and ninth threat factors are not applicable here and will not be discussed further. The eighth factor (product shifting) is also inapplicable because we have no evidence that the facilities used to produce other articles subject to antidumping and countervailing duty investigations can be used to produce CDIW fittings.

[192]19 U.S.C. § 1677(7)(F)(ii).

[193]Report at Table 1.

accounted for by CDIW fittings not over 16 inches in interim 1993 was also higher than in interim 1992.[194] By contrast, the share of domestic consumption accounted for by every other segment of the market remained stable or declined throughout the period of investigation, with the exception of the market share of CDIW fittings over 16 inches in nominal diameter.[195] Moreover, U.S. producers' loss of market share was more pronounced in the rapidly expanding market segment for smaller diameter CDIW fittings than in the market for iron waterworks fittings as a whole.[196]

Imports of the subject waterworks fittings from China increased rapidly from 1990 to 1992, more than doubling by both quantity and value.[197] The quantity and value of such imports from China, however, were significantly lower in interim 1993 than in interim 1992.[198] The volume of U.S. shipments of Chinese imports also more than doubled between 1990 and 1992. Such shipments also increased in interim 1993 as compared with interim 1992.[199]

The market share of the subject imports by quantity also doubled from 1990 to 1992, increasing from 2.4 percent to 6.6 percent. Such market share increased from 5.3 percent in interim 1992 to 6.5 percent in interim 1993.[200] The market penetration of the subject imports in the segment of the domestic

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[194]Report at Table D-2.

[195]Report at Tables D-3, D-4, D-5, D-6, and D-7.

[196]Report at Table D-2.

[197]Report at Table 23.

[198]Report at Table 23.

[199]Report at Table D-1.

[200]End-of period inventories of imports from China also increased from 1990 to 1992 and were down from interim 1992 to interim 1993.

industry made up of CDIW fittings 16 inches and under in diameter was even greater. Market penetration of LTFV Chinese imports increased from 6.9 percent in 1990 to 17.2 percent in 1992 and was 17.5 percent in interim 1993 as compared with 15.4 percent in interim 1992.[201]

In light of the recent rapid increase in subject imports, we find that existing unused capacity in China to produce the subject merchandise is likely to result in a significant increase in imports of the merchandise into the United States. Not all Chinese producers supplied information in this final investigation, so we have very limited information regarding capacity to produce iron waterworks fittings in China.[202] Information collected in this investigation, however, indicates that two Chinese factories produce waterworks fittings and iron glands of a quality that meets AWWA/ANSI standards and that these two factories produce almost exclusively for export to the United States.[203] For this reason we find it likely that any increase in exports would be directed to the United States.

Pricing data indicate that future LTFV imports from China are likely to have suppressing or depressing effects on domestic prices of iron waterworks fittings. Price competition is important in the market for iron waterworks fittings, with most U.S. producers and importers reporting that the domestic

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[201]Report at Table D-2.

[202]One factory indicated in the preliminary investigation that it operated at close to full capacity in 1990 and 1991, but predicted that its exports to the United States, which increased rapidly from 1990 to 1991, would continue to increase in 1992, but decrease in 1993. A second facility provided no capacity information and a third was able to supply actual capacity information only through 1991. Report at I-47 to I-49 and Table 22.

[203]Report at I-47 to I-49.

product and the imported Chinese product are of similar quality.[204] Therefore an increase in the supply of the subject imports is likely to exert downward pressure on the U.S. market price for iron waterworks fittings and any increase in the volume of LTFV imports is likely to come at the expense of U.S. producers' sales of iron waterworks fittings, rather than increasing the level of domestic consumption of iron waterworks fittings.[205]

The Commission requested pricing information from U.S. producers and importers and from purchasers of the subject products from China. Because all of the subject imports are CDIW fittings, direct price comparisons were possible only for sales of such fittings.[206] However, in light of the current and growing importance of this segment of the market, we find these pricing trends to be particularly relevant to our threat analysis.[207] [208]

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[204]Report at I-54.

[205]EC-Q-087 at 18.

[206]Chairman Newquist and Commissioner Rohr note that in drawing conclusions about the probability of price suppression or depression for purposes of their threat analysis, they placed greater weight on the CDIW segment of the industry because that segment is increasing the most in market share and having increasingly greater impact on the industry as a whole.

[207]We note that the Court of International Trade has approved consideration of whether the imports are having a greater or lesser impact in various market segments. See Iwatsu Electric Co. v. United States, 758 F.Supp. 1506, 1511, n. 7 (Ct. Int'l Trade 1991) (focus to some extent on rental market is not inconsistent with making a determination of material injury to an industry "as a whole"); Gifford-Hill Cement Co. v. United States, 615 F. Supp. 577, 582-584 (Ct. Int'l Trade 1985) (geographic submarkets).

[208] See, e.g., Internal Combustion Engine Forklift Trucks from Japan, Inv. No. 731-TA-377 (Final), USITC Pub. 2082 (May 1988) at 26 (focusing on pricing data pertaining to the segment of the forklift market where "competition between imported and domestic products was the most vigorous"); Candles from the People's Republic of China, Inv. No. 731-TA-282 (Final), USITC Pub. 1888 (August 1986) at 16-17)(analyzing effects in mass merchandizing, wholesale distribution, and specialty store segments).

The data in this investigation show that the imported Chinese products were priced below the domestically-produced products in most instances.[209] This pricing information, when viewed in conjunction with data concerning changes in the industry's costs and its financial performance, evidences significant price suppression in the small diameter CDIW segment of the market caused by underselling of the subject imports by margins which increased over the period of investigation.[210] An examination of the market segment for small diameter CDIW fittings illustrates this price suppression. From 1991 to 1992, apparent domestic consumption by quantity increased by 15.0 percent. The U.S. industry's market share, however, decreased from 86.6 percent to 79.9 percent, while the market share held by Chinese imports increased from 11.6 percent to 17.2 percent. During this period the domestic industry's COGS increased. While the unit values of the domestic product also increased, they increased at a lower rate than did COGS.

As a result of this increase in volume and apparent price suppression by LTFV imports, the operating income of the smaller diameter CDIW segment of the domestic industry declined precipitously and this segment of the industry suffered operating losses. We note that the COGS for this segment of the domestic industry continued to rise in the interim period. In view of the increasing importance of the smaller diameter CDIW segment of the industry, we view the adverse price effects of the imports on this segment to be of increasing importance and to constitute an imminent probability of price suppression or depression in the future on the industry as a whole.

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[209]Report at Table 36.

[210]Report at Table 36; Table D-9.

Information on the record indicating that domestic producers lost sales because of lower prices offered on the subject imports provides further evidence that increased volumes of LTFV imports are likely to have a suppressing effect on domestic prices.[211] Moreover, U.S. importers' inventories of the subject Chinese CDIW fittings increased dramatically over the three year period, before falling in the interim period, but remained at levels above those in 1990.[212] Finally, information collected in this investigation indicates that LTFV imports from China have had a detrimental effect on the capital investments of certain domestic producers.[213]

For the reasons set forth above, we determine that the domestic industry producing iron waterworks fittings is threatened with material injury by reason of the subject LTFV imports from China.

But For Determination

Finally, the statute requires that when the Commission makes a final affirmative determination on the basis of threat, it also make a finding as to whether material injury by reason of subject imports would have been found but for the suspension of liquidation of entries of such imports.[214] This finding is required so that Commerce may impose dumping duties as of the appropriate date. Suspension of liquidation on subject imports from China became effective on November 20, 1992.[215] We find that the performance of the domestic industry had not deteriorated to the point where imports during the

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[211]Report at I-67 to I-69.

[212]Report at Table 20.

[213]Report at Appendix E.

[214]See 19 U.S.C. § 1673d(b)(4)(B).

[215]58 Fed. Reg.37908 (July 14, 1993).

relevant period would have resulted in material injury. We therefore conclude that there would not have been material injury to the domestic iron waterworks fittings industry, but for the suspension of liquidation of entries.

B. No Threat of Material Injury by Reason of LTFV Imports of Accessory Packs[216]

There has been no rapid increase in the market penetration of Chinese imports of accessory packs, which has remained at zero throughout the period of investigation. Petitioners allege that Chinese producers are likely to begin exporting accessory packs to the United States. However, there is no evidence on the record to support these allegations. Therefore, we find that no likelihood that any increase in capacity or existing unused capacity in the exporting country is likely to result in a significant increase in imports of the merchandise to the United States, no likelihood that market penetration of subject imports will increase to an injurious level, and no probability that imports of the merchandise will enter the United States at prices that will have a depressing or suppressing effect on domestic prices of the merchandise. Because there have been no imports, there has been no substantial increase in inventories of Chinese accessory packs in the United States, or any effects on the industry's development and production efforts.

In sum, there is no history of Chinese accessory pack imports to the United States nor any evidence to suggest that future imports are likely. Consequently, we determine that the U.S. industry producing accessory packs is not threatened with material injury by reason of imports from China.

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[216]Commissioner Brunsdale and Commissioner Crawford join this portion of the opinion.

DISSENTING VIEWS OF COMMISSIONERS BRUNSDALE AND CRAWFORD
Compact Ductile Iron Waterworks Fittings and Accessories Thereof
from the People's Republic of China
Inv. No. 731-TA-621 (Final)

On the basis of information obtained in this final investigation, we determine that no industry[1] in the United States is being materially injured or threatened with material injury by reason of imports of compact ductile iron waterworks fittings and accessories found by the Department of Commerce to be sold at less-than-fair-value (LTFV).

I. NO MATERIAL INJURY BY REASON OF LTFV IMPORTS

In determining whether a domestic industry is materially injured by reason of the imports under investigation, the statute directs the Commission to consider:

> (I) the volume of imports of the merchandise which is the subject of the investigation,
>
> (II) the effect of imports of that merchandise on prices in the United States for like products, and
>
> (III) the impact of imports of such merchandise on domestic producers of like products, but only in the context of production operations within the United States . . . .[2]

In assessing the effect of dumped imports, we compare the current condition of the domestic industry to that which would have

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[1] Commissioner Crawford joins the majority in determining that all fittings and glands are separate like products. The evidence central to her analysis (i.e. market share, substitutability, dumping margin, capacity utilization and elasticities) is essentially identical in this investigation for the industries producing the separate like products. Therefore, her analysis in these Views is the same for both industries, and she determines that neither of the separate industries is materially injured or threatened with material injury by reason of LTFV imports.

[2] 19 U.S.C. § 1677(7)(B)(i). In making its determination, the Commission may consider "such other economic factors as are relevant to the determination." 19 U.S.C. § 1677(7)(B)(ii).

existed had imports not been dumped.[3] Then, taking into account the condition of the industry, we determine whether the resulting change of circumstances constitutes material injury. For the reasons discussed below, we find that the domestic industry producing fittings and glands is not materially injured by reason of dumped imports from the PRC.

A. Volume of the Subject Imports

U.S. producers accounted for 93 percent of the combined fittings and glands market in terms of value in 1992. The market share of Chinese producers is extremely small in comparison. We do not find this volume to be significant, particularly in light of its effects.

B. Effect of LTFV Imports on Domestic Prices

To analyze the effect of subject imports on domestic prices of the like product and on the domestic industry, we consider a number of factors about the industry and the nature of the products, such as the availability of substitute products in the market, the degree of substitutability between the subject imports and the domestic like product, the presence of fairly traded imports, and the dumping margin, which was found to be 127.38 percent.[4] We find the subject imports had no significant price effect.

There are no feasible substitutes for iron fittings and glands, either in the replacement or original waterworks system markets. Moreover, since the price of fittings and glands is only

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[3] 19 U.S.C. § 1677(7)(C)(iii).
[4] Report at I-4.

a small part of a system's overall cost, demand for fittings and glands is likely to be fairly unresponsive to small changes in price.[5]

Fittings and glands of the same size and shape from all countries are close substitutes for each other, so long as they meet the AWWA/ANSI standard. Chinese fittings and glands do suffer from "Buy America" requirements and the perception of some that they are inferior in quality. Moreover, sellers distinguish fittings and glands with the same technical characteristics by differences in reliability of supply, shorter delivery times, coverage for product liability, and a broader range of products. The subject imports are therefore reasonably good, but not perfect, substitutes. The staff estimated an elasticity of substitution of 2 to 4 for fittings alone. We think this reasonable.[6]

Using the Commerce Department's dumping margin, the subject imports would have sold at prices up to 127.38 percent higher than their dumped price. Since these imports are reasonably substitutable with fittings and glands from the U.S., it is likely that they would have been largely, if not entirely, priced out of the market. Because U.S. producers are operating at low levels of capacity utilization, they could easily increase production to meet the demand supplied by subject imports. Given the small market share of subject imports, and the excess capacity in the United

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[5] Economics memorandum (EC-Q-087) at 19.

[6] Because fittings and glands are complementary, our broader like product definition will not reduce this elasticity. Because most of the factors that limit substitutability of Chinese and U.S. fittings limit substitutability of Chinese and U.S. glands as well, they do not increase it either.

States, domestic prices are not likely to have increased. Competition among domestic producers with excess capacity would have held prices at the same level.

C. Impact on the Domestic Industry

In assessing the impact of LTFV imports on the domestic industry, we consider, among other relevant factors, output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital and research and development.[7] These factors either encompass or reflect the volume and price effects of the dumped imports, and so we must gauge the impact of the dumping through those effects.

With the high dumping margins, it is quite unlikely that any Chinese imports would have entered at fairly traded prices. Domestic shipments may have increased somewhat if subject imports were fairly traded. However, because of the small market share of subject imports, it is unlikely that U.S. producers could have increased their volume of sales to a significant degree. It is also very unlikely that prices would have increased. Therefore, although it is a close call, we determine that the domestic industry would not have been materially better off if subject imports had been fairly traded.

For these reasons, we conclude that the domestic industry is not materially injured by reason of LTFV imports of fittings and glands from the PRC.

II. NO THREAT OF MATERIAL INJURY BY REASON OF LTFV IMPORTS

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[7] 19 U.S.C. § 1677(C)(iii).

We have considered the enumerated statutory factors that we are required to consider in our determination.[8] A determination that an industry "is threatened with material injury shall be made on the basis of evidence that the threat of material injury is real and that actual injury is imminent. Such a determination may not be made on the basis of mere conjecture or supposition."[9]

We are mindful of the statute's requirement that our determination must be based on evidence, not conjecture or supposition. Accordingly, we have distinguished between mere assertions, which constitute conjecture or supposition, and the positive evidence[10] that we are required by law to evaluate in making our determination.

The data regarding Chinese capacity and production are limited. However, the evidence shows that the only Chinese factories that produce and export subject products of a quality that meets AWWA/ANSI standards produce exclusively for U.S. importers. The data obtained in the preliminary investigation and this final investigation support a conclusion that capacity utilization is quite high. In addition nearly all of the subject products were exported to the United States.[11] Thus, imports of Chinese products cannot increase significantly absent additional production capacity.

Petitioners offer no evidence that Chinese capacity will

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[8] 19 U.S.C. § 1677(F)(i).
[9] 19 U.S.C. § 1677(7)(F)(ii).
[10] See American Spring Wire Corporation v. United States, 590 F., Supp. 1273 (1984).
[11] Report at I-47 to I-49.

increase. Rather, they assert that "[a]s the foreign trading partner with whom the United States carries a trade deficit second only to Japan, China has demonstrated a growing ability to supply an ever widening array of high-quality products to the U.S. market. Therefore, one could assume that further development of foundries that manufacture and export simple industrial products such as waterworks fittings is not beyond the ken of the Chinese."[12] While this assertion addresses the ability to expand, petitioners offer no evidence that expansion is planned or that action to expand has been taken. Therefore, petitioners' assertions are mere speculation.

Even at its highest, the market share of subject imports was small in 1992. The large percentage increase from 1990 to 1991 is a function of the small base in 1990. Given the evidence of high capacity utilization in China, the evidence that nearly all subject products are exported to the United States, and the lack of evidence that Chinese production will increase, we conclude that there is no likelihood that subject imports will increase to an injurious level.

In our determination that there is no material injury by reason of dumped imports, we demonstrated that subject imports have had no significant effect on domestic prices. We find no evidence that this will change in the immediate future. Therefore, we conclude that there is a very low probability that dumped imports will enter the United States at prices that will have a depressing or suppressing effect on domestic prices.

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[12] Pet. Prehg. Br. at 57-58.

In absolute terms, there was a substantial increase in inventories of subject imports in the United States from 1990 to 1991. However, this increase was not substantial in relation to imports. In addition, such inventories decreased from 1991 to 1992 in absolute terms, and there was a substantial decrease in such inventories as a percentage of imports from 1991 to 1992.[13] Taken together, these data do not constitute evidence that any threat of material injury is real or that actual injury is imminent.

We find no evidence of any other demonstrable adverse trends that indicate the probability that subject imports will be the cause of actual injury. In addition, we find that, particularly in light of the significance of transportation costs, small levels of inventories of subject imports in China do not constitute sufficient evidence that any threat of material injury is real or that actual injury is imminent.

At most, the record would support the conclusion that, in the absence of antidumping duties, the level of subject imports would return to what it was before the preliminary duties were imposed. Since we have concluded that this level, at this time, is not materially injuring the domestic industry, we also conclude it is not threatening the domestic industry either.

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[13] Report at I-46 to I-48.

DISSENTING VIEWS OF COMMISSIONER BRUNSDALE
Compact Ductile Iron Waterworks Fittings and Accessories Thereof
from the People's Republic of China
Inv. No. 731-TA-621 (Final)

Unlike my colleagues, I find that fittings and glands are one like product. I write separately to explain why.

A. Fittings and Glands

The Commission's traditional approach to the definition of a like product is much like the Supreme Court's old approach to the definition of pornography: We know it when we see it. In this investigation, the majority squints hard at the record and finds three like products corresponding to the one class or kind of merchandise described by the Commerce Department in its scope of investigation.

Defining a particular like product is never very easy when the statute defines a like product generally to mean "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation." 19 USC § 1677(10).

Such a tautological definition has not helped us or our reviewing courts define the concept of like product with very much precision at all. Our usual analysis of the issue is a recitation that the domestic industry consists of the domestic producers of a like product; that the like product is the product produced in the United States that is like, or in the absence of like, most similar to, the imports under investigation; that the

Commerce Department defines the scope of the imports under investigation; and that the Commission defines the like product as "a factual matter," on a "case-by-case basis."

That analysis, invoked again today by my colleagues, raises three distinct problems, all of them nicely illustrated by the facts of this investigation. The first is choosing what characteristics of the foreign and domestic merchandise to compare for "likeness." The Commission usually follows a traditional six-factor test. These are physical characteristics and uses, interchangeability, channels of distribution, common manufacturing facilities and employees, and price. Op. at 6 n.6.

The second problem is one of grouping. Sometimes the Commission will treat the class or kind of foreign merchandise as a single set, and sometimes it will treat the class or kind as a series of distinct subsets. Thus, if the class of merchandise were defined by Commerce to be lemons and oranges, we might search for a single like product "like" both lemons and oranges, or it might search for two like products, one like lemons and one like oranges. We would probably not, however, explain our choice.

The third problem is how to apply whichever test is chosen against whichever subset of foreign merchandise is used. The Commission's traditional analysis traditionally consists of a bit of discussion about each factor, followed by a prepositional phrase such as "On balance" or "In conclusion" followed by its determination. It is not surprising that our analyses have created considerable unpredictability and inconsistency. For one

thing, the factors of a particular test rarely, if ever, point in one direction.

Each of these problems is present here. The majority carefully lists and discusses the various factors; divides the one class or kind of merchandise found by Commerce into three subsets and defines a like product corresponding to each; and then proceeds to a conclusion that does not follow in any clear way from the discussion that preceded it.

The way to escape this muddle is, in my view, to begin with the recognition that the antidumping and countervailing duty laws do not call on the Commission to evaluate the impact of the imports that Commerce investigates on the U.S. economy as a whole, or on upstream industries, or downstream industries, or service industries associated with the imported products, but only the industry producing the like product. The definition of a like product, then, must be seen not as a game of free association, but as a way of segregating a particular industry or industries that will be most likely harmed by the unfair trade practice under investigation.

Except perhaps in eccentric cases, the harm caused by the excessively low price of the imports under investigation will be caused by its effects on the production and consumption of some products made by a domestic industry. A search for a like product should be a search for those products whose production or consumption would respond most in the short term to a change in price of the imports under investigation by the Commerce Department. It should be, in short, a search for those products

with very large (or at least the largest) elasticities of substitution in either supply or demand.

As I wrote four years ago

> our purpose is not to define separate products, but to identify separate industries. The critical issue, therefore, is not whether two products are comfortably differentiated, but rather whether those products are traded in separate markets occupied by separate industries. If an economic event, like the onset of dumping, is likely to have a simultaneous impact on production and sales of two physically different articles, then we can comfortably conclude that the producers in those markets comprise one industry producing one like product.

Industrial Belts from Israel et al., Invs. Nos. 701-TA-293 and 731-TA-412-419 (Final), USITC Pub. 2194 (May 1989) at 53.

Practically, of course, the data do not exist for the calculation of the relevant elasticities. So I look at the willingness, based on the evidence in the administrative record of the investigation, of consumers to switch from the imports to a proposed like product; or the ease with which manufacturers of two or more "different articles" can switch production between or among them.

I therefore agree with my colleagues that full-bodied and compact fittings, gray and ductile iron fittings, and large and small diameter fittings should all be considered one like product corresponding to the imported fittings described in the scope of investigation. The point is not that these are all used to carry water (so are pipes) or are all made from iron (so are horseshoes), or even are all perceived by customers to be

interchangeable (they are not.)[1] Instead, they are "like" in the sense that they are all made in the same factories on the same equipment by the same processes -- or at least processes sufficiently similar that most producers can with a fair degree ease switch production from one type of fitting to another, from ductile to gray iron, from compact to full-bodied fitting, and so forth.[2]

In contrast, the majority finds that glands are a separate like product even though fully half of the producers (accounting for the preponderance of production of both glands and fittings, I-14, Table 1; see also Pet. Preh. Br. at 38) produce both of them on the same production equipment in the same factories, even on the same casting.[3] The reasons the majority gives are most unpersuasive. They state that fittings and glands do not have the same uses -- but neither do tees and reducers (the one used to divert or join flow, the other to increase its velocity), or large and small diameter fittings (one used for transmission, the other for distribution). See I-5, op. at 14-15. They state that fittings have different appearances than glands -- but so do

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[1] A customer who needs a tee cannot use a reducer, a customer who needs a 24 inch fitting for transmission cannot use a 6 inch fitting intended for distribution, and so on.

[2] I am aware that not all the factories produce all fittings, but all produce some, with enough overlap, see I-14, Table 1, that a change in relative prices would reverberate quickly throughout the entire group. That is what makes them one industry.

[3] Petitioners noted that "[t]he manufacture of fittings and glands is, in fact, so integrally related that patterns for some CDIW fittings include a pattern for a gland, called a 'rider.'" Pet. Preh. Br. at 38; Tr. at 53, 68. It is no surprise, then, that price changes in the fittings market have a great effect on the gland market. See Pet. Preh. Br. at 56.

full-bodied and compact fittings (which differ only in bulk, weight, thickness and length, op. at 9). They state that there are large price differences between fittings and glands -- as there are between compact and full-bodied fittings, op. at 11; or larger and smaller fittings, op. at 16; or gray and ductile iron, op. at 13. Perhaps most egregiously, they state that fittings are different from glands because they are covered by different AWWA/ANSI standards -- just like full-bodied and compact fittings, op. at 9 (and unlike compact fittings over 16 inches in diameter, which are not covered by a standard at all, op. 14).

In short (to indulge in a prepositional phrase myself), the majority is wrong. On this issue, I agree with the petitioners, and find that fittings and glands are one like product.

B. Accessory Packs

In contrast to glands, accessory packs (or the primary components thereof) are not produced by the same companies on the same production lines by the same processes. They are certainly not perceived as good substitutes by the consumer (who, of course, views them as complementary). See op. at 19. They are, therefore, not the same like product.[4]

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[4] The more interesting questions of whether the primary component parts of an accessory pack (i.e., gland, gasket, and fasteners) should each be a different like product, or whether accessory packs should be the same like product as their components (because of the ease with which consumers could assemble their own accessories), need not be answered. As the majority points out in section IV.B and V.C, no domestic industry (however defined) can be injured or threatened with injury by reason of dumped accessory pack imports. There are none, and so I join in that section of the opinion.

Having defined the like product, defining the domestic industry is easy. It is the producers of fittings or glands, or both.[5]

[5] I join the majority's discussion of the related parties issue.

INFORMATION OBTAINED IN THE INVESTIGATION

INTRODUCTION

Following a preliminary determination by the U.S. Department of Commerce (Commerce) that certain compact ductile iron waterworks (CDIW) fittings and accessories thereof[1] from the People's Republic of China (China) are being, or are likely to be, sold in the United States at less than fair value (LTFV),[2] the U.S. International Trade Commission (Commission), effective February 9, 1993, instituted investigation No. 731-TA-621 (Final) under section 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1673d(b)) to determine whether an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports of such merchandise.[3] Notice of the institution of the Commission's investigation, and of the public hearing to be held in connection therewith, was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of March 10, 1993 (58

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[1] CDIW fittings and accessories thereof are defined by Commerce to include the following: (1) CDIW fittings of 3 to 16 inches nominal diameter regardless of shape, including bends, tees, crosses, wyes, reducers, adapters, and other shapes, whether or not cement lined and whether or not covered with bitumen or similar substance, conforming to American Waterworks Association/American National Standards Institute (AWWA/ANSI) specification C153/A21.53, and rated for water working pressure of 350 pounds per square inch (PSI); and (2) certain CDIW fittings accessories that typically consist of a standard ductile iron gland, a styrene butadiene rubber (SBR) gasket, the requisite number of Cor-Ten steel or ductile iron T-head bolts, and hexagonal nuts, for fittings in sizes 3 to 16 inches, conforming to AWWA/ANSI specification C111/A21.11, and rated for water working pressure of 350 PSI. Gaskets, bolts, and nuts are included only if they are imported as an accessory pack with a gland. However, glands imported separately are included in the scope of the investigation. CDIW fittings with nominal diameters greater than 16 inches, and the accessories used with CDIW fittings with nominal diameters greater than 16 inches, are specifically excluded from the scope of the investigation. Nonmalleable cast iron fittings (also called gray iron fittings) and full-bodied ductile fittings are also specifically excluded from the scope of this investigation. See the section of the report entitled U.S. Tariff Treatment for tariff provisions covering the subject goods.

[2] On Mar. 31, 1993, petitioners alleged before Commerce that critical circumstances exist with respect to exports by China National Metal Products Import and Export Corp. On May 6, 1993, Commerce preliminarily determined that critical circumstances exist and published a notice to this effect in the Federal Register (58 F.R. 26960). Critical circumstances were also found to exist by Commerce in its final determination.

[3] On Feb. 12, 1993, Commerce received a request from the China National Metal Products Import and Export Corp. that Commerce postpone the date of its final determination by 60 days. On Mar. 3, 1993, Commerce published a notice in the Federal Register (58 F.R. 12220) postponing the date of its final determination until July 6, 1993.

F.R. 13278).[4] The hearing in this investigation was held in Washington, DC, on July 8, 1993.[5]

Commerce's final LTFV determination was published in the Federal Register of July 14, 1993 (58 F.R. 37908). The applicable statute directs that the Commission make its final injury determination within 45 days after the final determination by Commerce.

BACKGROUND

This investigation results from a petition filed by the U.S. Waterworks Fittings Producers Council and its individual members, Clow Water Systems, Tyler Pipe Industries, Inc., and Union Foundry Co. (hereinafter "petitioners") on July 8, 1992, alleging that an industry in the United States is materially injured or threatened with material injury by reason of LTFV imports of CDIW fittings and accessories thereof from China. In response to that petition, the Commission instituted investigation No. 731-TA-621 (Preliminary) under section 733 of the Tariff Act of 1930 (19 U.S.C. § 1673b(a)) and, on August 19, 1992, determined that there was a reasonable indication of such material injury.

PREVIOUS AND RELATED INVESTIGATIONS

CDIW fittings and CDIW fittings accessories from China or from any other source have not been the subject of previous Commission investigations.

NATURE AND EXTENT OF SALES AT LTFV

On July 14, 1993, Commerce published in the Federal Register its final determination that certain CDIW fittings and acessories thereof from China are being, or are likely to be, sold in the United States at LTFV. The weighted-average LTFV dumping margin determined by Commerce was 127.38 percent.[6]

In making its final determination, Commerce relied on the information supplied by the petitioners as the best information available (BIA), noting (1) the failure of the Government of China to respond to its request for the identity of all Chinese exporters and their respective exports of the subject products and (2) the inadequacy of a consolidated questionnaire response from the Chinese Government on behalf of all Chinese producers and exporters. Using the information provided by petitioners, Commerce compared the United States price (USP) with the foreign market value (FMV) of CDIW fittings and

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[4] Copies of cited Federal Register notices are presented in app. A.

[5] A list of witnesses who appeared at the hearing is presented in app. B.

[6] In the *Separate Rates* section of its Federal Register notice of determination, Commerce determined that, having reconsidered of its policy of issuing separate rates in nonmarket economy investigations, it is inappropriate to issue separate LTFV margins to state-owned enterprises. (See Commerce's Federal Register notice, app. A.)

accessories thereof. USP was based on official import statistics from January through April 1992, as contained in the petition. Using India as the surrogate, FMV was based on the factors of production-cost methodology.

In addition to its finding of sales at LTFV, Commerce also concluded, relying again on BIA, that there have been massive imports of the subject merchandise from China over a relatively short period of time and, therefore, determined that critical circumstances exist.

THE PRODUCT

Description and Uses

Waterworks fittings are used to join pipes, valves, and hydrants in straight lines and to change, divert, divide, or direct the flow of raw or treated water (primarily in municipal water distribution systems). Waterworks fittings are produced in a variety of shapes (e.g., bends, tees, crosses, elbows, wyes, reducers, and adapters) and range in size from 2 inches to 54 inches in nominal diameter (figure 1).[7]

The standard material for conveying water and sewage in municipal utility and industrial piping systems traditionally has been cast iron, which is available in essentially two forms--gray and ductile.[8] Ductile iron is more expensive to produce than gray iron.[9] However, because ductile iron has proven to be a far superior material in terms of strength, ductility, and corrosion resistance, it has, to a large degree, replaced gray iron as the material of choice for a significant number of end users. Further, gray iron waterworks (GIW) fittings are generally rated at not higher than 250 pounds per square inch (PSI), compared with 350 PSI for ductile iron waterworks fittings.

Waterworks fittings come in either full-bodied or compact designs, that differ primarily in size and weight. Compact fittings have a shorter body design, or lay-length, and thinner walls than full-bodied fittings; as a result, they weigh only about half as much as comparably sized full-bodied fittings.[10] Although full-bodied ductile iron waterworks (FBDIW) fittings typically have the same use as CDIW fittings, conditions in which FBDIW fittings must be used include "extra heavy duty applications," such as water systems in earthquake zones, or municipalities that have not updated their specifications to include CDIW fittings. Some municipalities that have highly corrosive soils prefer full-bodied fittings because of their thicker walls.[11] Each end of a waterworks fitting is designed so that it can be attached to a pipe, hydrant, valve, or to another fitting with a mechanical joint (MJ) or

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[7] Conference transcript, p. 102.

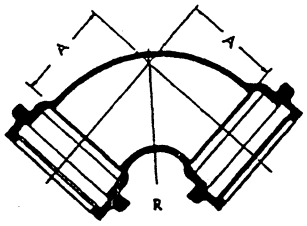
[8] McWane, Inc., C. Mac Luna, Corporate Vice President, testimony, hearing transcript, p. 12.

[9] Ibid., p. 13.

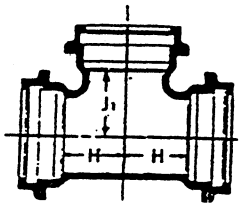
[10] Petitioners' prehearing brief, p. 16.

[11] Mr. Luna, testimony, hearing transcript, pp. 13 and 14; and petitioners' prehearing brief, pp. 19-20.

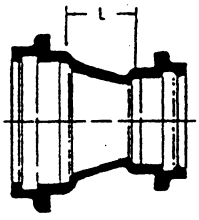
Figure 1
Typical compact ductile iron waterworks fittings



U-300
¼ Bend (90°)



U-310
Tee



U-328
Reducer

Source: McWane, Incorporated, Pipe Economy 91.

push-on joint. Both types of joints are used with certain accessories. MJ waterworks fittings require the use of an iron gland, a styrene butadiene rubber (SBR) gasket, and the requisite number of steel or iron T-head bolts and nuts to secure the fitting to the pipe (figure 2). The gland is placed around the plain end of the pipe; the pipe and gasket are then "stuffed" into the bell-end of the fitting. The joint is then secured with the T-head bolts and hexagonal nuts.[12] Push-on waterworks fittings perform the same function as MJ fittings, except that push-on fittings require only an SBR gasket to secure the fitting to the pipe. The SBR gasket is placed in the fitting socket, and the plain end of the pipe is then forced into the socket, forming a positive seal with the gasket.[13] Although the glands and accessories may be sold separately, some companies assemble them in a box and sell them as a gland or an accessory pack.

All waterworks fittings and accessories must conform to standards set by the American Waterworks Association (AWWA) and the American National Standards Institute (ANSI). Standards established for CDIW fittings of ductile iron are provided for under AWWA/ANSI standard C153/A21.53 (there are no compact fittings made of gray iron); those for full-bodied waterworks fittings made of either ductile or gray iron are provided for under AWWA/ANSI standard C110/A21;[14] and those for fittings accessories, including ductile iron and gray iron glands, gaskets, T-head bolts, and hexagonal nuts, are provided for under AWWA/ANSI standard C111/A21.11-85.[15]

Only those CDIW fittings with nominal diameters of 3 to 16 inches are covered by this investigation. CDIW fittings over 16 inches in nominal diameter are not yet covered by the AWWA/ANSI C153/A21.53 standard and are not widely used in the waterworks industry. Unlike smaller diameter CDIW fittings, which are used in water distribution systems, CDIW fittings over 16 inches are generally used in water transmission systems.[16]

Because all the subject waterworks fittings sold in the United States conform to AWWA/ANSI specifications, domestic and imported products are generally recognized as interchangeable.[17] End users generally know the origin of the product being used because the specifications require the name of the manufacturer to be cast on the product.

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[12] Petitioners' prehearing brief, p. 35.

[13] Ibid.

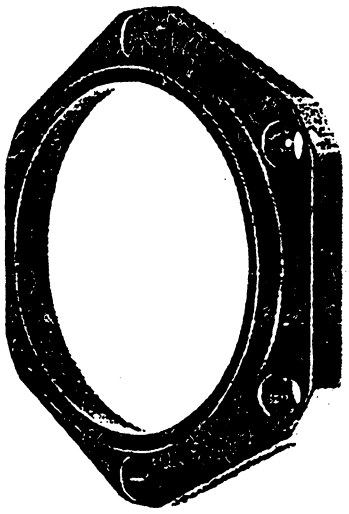
[14] A third type of waterworks fitting (not included in the scope of the petition or in Commerce's investigation), ductile iron flanged fittings, is also covered in the AWWA/ANSI standard C110/A21. The most significant differences in the standards are the working pressure requirements and joint-type requirements. The C110 standard for full-bodied fittings permits fittings to be rated at 250 PSI or 350 PSI, depending on whether the fitting is a mechanical joint, push-on joint, or flanged joint. The C153 standard requires all compact fittings to be rated for 350 PSI working pressure.

[15] Petitioners' prehearing brief, pp. 6 and 7.

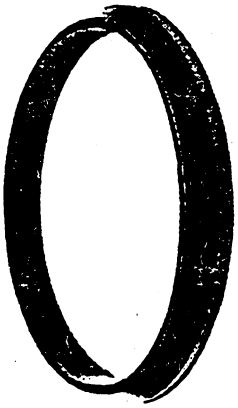
[16] Petitioners' prehearing brief, p. 29.

[17] Mr. Luna, testimony, hearing transcript, pp. 71-73.

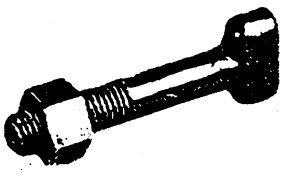
Figure 2
Typical accessories used with CDIW fittings



Gland
A-90850



Gasket
6-60010



Alloy Steel Tee Head Bolt
with Hex Nut
6-50400

Manufacturing Process

The manufacturing process for CDIW fittings of all sizes begins with the melting of scrap iron in an electric or cupola furnace. Other materials, such as silicon and calcium carbide, are added to improve the iron base and reduce the sulfur content of the iron to 0.15 percent or less. The iron is then stored in an electric holding furnace or transferred directly to a specially designed vessel where magnesium is introduced to convert the iron to "ductile" strength.[18] The addition of magnesium allows the iron to undergo permanent changes in shape without rupture. The molten ductile iron is then "tapped" from the furnace and poured either manually or mechanically into molds.

The manufacture of FBDIW fittings tends to be a more labor intensive, batch-type process than the production of CDIW fittings.[19] At the first stage of the molding process for both CDIW and FBDIW fittings, a pattern is placed in a flask and covered with molding sand. Each flask holds multiple compact patterns but only one or two full-bodied patterns. The sand is compacted around the pattern, which is then removed; the resulting sand core is inserted into the molding cavity to form the inside of the fitting. This half of the mold is then paired securely with the other half of the mold prepared in a separate flask. The completed mold then advances to the casting stage in which molten iron is poured from a ladle into the mold. Once cast and cooled, the FBDIW castings are manually removed from the mold and the excess sand is removed (shaken out) by hand.[20] For CDIW fittings, excess sand is removed on a continuous automated shakeout line.[21] The casting is then further cooled before undergoing finishing, machining, and coating.

The production process for CDIW fittings with nominal diameters greater than 16 inches is similar to that for CDIW fittings of smaller nominal diameters, except that the production process for the smaller fittings tends to be more automated, according to respondents to the producers' questionnaire in this investigation. The production of the larger fittings often requires larger and more expensive machinery and equipment; production of the larger diameter CDIWs accounts for about 5 percent of total CDIW production.[22]

Accessory glands, like fittings, can be made either on an automatic production line or on a manual production line.[23] The production process for the glands, like that for the fittings, includes making the mold and casting and finishing the gland. In the finishing stage, both the fittings and glands are shot-blasted to remove excess material or irregularities. Fittings, but not glands, may be lined with cement. Both fittings and glands may be coated

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[18] The addition of magnesium changes the chemical structure of the graphite content of the iron from the flake form found in gray iron to a spheroidal form. This change in chemical structure gives ductile iron twice the strength of gray iron. (See conference transcript, pp. 91-95.)

[19] Mr. Luna, testimony, hearing transcript, p. 15.

[20] Ibid.

[21] Ibid.

[22] Mr. Luna, testimony, hearing transcript, p. 16.

[23] Petitioners' prehearing brief, p. 38.

with bitumen, a tar-like substance to prevent corrosion.[24]

SBR gaskets for MJ waterworks fittings are produced by either the injection molding process or the compression molding process. In the injection molding process, rubber is fed into a molding press. The resulting gasket is visually inspected and hand finished. In the compression molding method, extruded rubber is molded in compression molds in hydraulic molding presses. The gaskets are processed in a liquid nitrogen solution to enhance their sealant characteristics; then they are visually inspected and hand finished.[25] The production of SBR gaskets for push-on fittings is very similar to the compression molding process used for MJ fittings.

Like Product Considerations

Four like-product issues were addressed during the Commission's preliminary investigation. Those issues were as follows: (1) whether all CDIW fittings and accessories thereof constituted a single-like product; (2) whether the like product should include gray iron as well as ductile iron fittings; (3) whether the like product should include full-bodied as well as compact fittings; and (4) whether the like product should include fittings over 16 inches in nominal diameter. On the basis of information developed during the preliminary investigation, the Commission determined that there were four separate like-products and four domestic industries corresponding to those products:[26] iron waterworks fittings,[27] iron glands, SBR gaskets, and Cor-Ten T-head bolts[28] and hexagonal nuts. However, the Commission indicated its intent to reexamine this issue in any final investigation.[29]

The Commission's producers' questionnaire used in this investigation sought to collect information on the relevant domestic industries producing iron waterworks fittings, iron glands, SBR gaskets, and Cor-Ten T-head bolts and hexagonal nuts. The information compiled from questionnaire responses is, whenever possible, presented separately in the report in order to facilitate consideration of like-product issues. The questionnaire also requested comments from U.S. producers of waterworks fittings regarding the differences and similarities of ductile iron versus gray iron waterworks fittings, of CDIW fittings versus FBDIW fittings, and of waterworks fittings 16 inches and under

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[24] Ibid.

[25] Information supplied by Reeves Rubber, Inc., July 16, 1993.

[26] U.S. International Trade Commission, Certain Compact Ductile Iron Waterworks Fittings and Accessories Thereof from the People's Republic of China, Investigation No. 731-TA-621 (Preliminary), USITC publication 2552, Aug. 1992, p. 10.

[27] Including compact ductile, gray iron, full-bodied, and fittings over 16 inches in diameter.

[28] Cor-Ten steel is a weathering steel known for its atmospheric corrosion resistance.

[29] U.S. International Trade Commission, Certain Compact Ductile Iron Waterworks Fittings and Accessories Thereof from the People's Republic of China, Investigation No. 731-TA-621 (Preliminary), USITC publication 2552, Aug. 1992, p. 12.

in nominal diameter versus those over 16 inches. Comments received from U.S. producers are presented in appendix C and summarized below.

Ductile Iron vs. Gray Iron Waterworks Fittings

Ductile iron and gray iron waterworks fittings are generally similar in physical characteristics, manufacturing processes, production machinery and equipment used, and end uses. Physically, ductile iron fittings have greater strength and ductility than gray iron fittings. Ductile iron fittings also have the advantage of being lighter in weight than gray iron fittings. Through much of the manufacturing process, ductile and gray iron fittings follow the same basic production steps and use common machinery and equipment. However, additional manufacturing steps (desulfurization and the addition of magnesium to the molten iron) are required to convert iron from gray to ductile. These additional production steps also require the use of machinery and equipment not otherwise needed in the production of gray iron fittings. Ductile and gray iron fittings have similar end use applications.

CDIW Fittings vs. FBDIW Fittings

CDIW fittings have thinner walls and shorter laying lengths than FBDIW fittings. Consequently, the former is significantly lighter in weight than the latter. Both types of fittings utilize similar manufacturing processes and, with the exception of different types of molds and core flasks, use the same production machinery. Nonetheless, because many of the production functions of FBDIW fittings are performed manually, the production process for this type of fitting is much more labor intensive than that for CDIW fittings. Although both types of fittings have similar end use applications, each type has advantages and disadvantages in certain limited applications. CDIW fittings, for example, because of their lighter weight, can be used with PVC pipe, whereas full-bodied fittings cannot. On the other hand, FBDIW fittings would be more appropriate for use in water systems in earthquake zones.

Waterworks Fittings Not Over 16 Inches in Nominal Diameter vs. Fittings Over 16 Inches in Nominal Diameter

Except for the obvious differences in the size of the opening and weight, waterworks fittings under and over 16 inches in nominal diameter are similar in terms of physical characteristics. The production process for the larger diameter fittings (that is, over 16 inches) is less automated and requires generally larger and more expensive machinery and equipment. Waterworks fittings of all sizes are used to join pipes in straight lines or to change, divert, divide, or direct the flow of water or other liquids. Large diameter fittings, however, are more likely to be used to join high-pressure flow transmission pipes in straight lines, whereas fittings 16 inches and under are likely to be used on lower pressure distribution pipes to change, direct, or divert the flow of liquids.[30]

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[30] Conference transcript, p. 67.

Interchangeability

The interchangeability of the various types of waterworks fittings is usually determined by pressure-rating requirements and by the engineering specifications of a particular municipal water authority. U.S. producers generally indicated in questionnaire responses that, although a CDIW fitting and a gray iron fitting of comparable size are interchangeable in most applications, the CDIW fitting is likely to be the product of choice in new construction because of its superior strength, higher pressure rating, and greater ease of use. Similarly, the same producers indicated that, although CDIW fittings can be interchanged with FBDIW fittings, they generally are not, particularly in changes and repairs to existing systems, because of the extra excavation, cutting, and additional materials (for instance, pipe and sleeves and/or spool pieces) required to replace a FBDIW fitting with a CDIW fitting. Large diameter fittings are generally not interchangeable with small diameter fittings because of flow requirements. Fittings made of plastics are not practical substitutes for CDIW fittings because of unreliable performance and quality characteristics.[31]

Waterworks fittings sold in the United States (both domestic and imported) are manufactured in accordance with standards set by the AWWA/ANSI.[32] For this reason, U.S.-produced waterworks fittings and waterworks fittings imported from China are believed to be completely interchangeable. Furthermore, both U.S.-produced waterworks fittings and waterworks fittings imported from China flow through the same channels of distribution, primarily waterworks distributors.

Iron glands and gland or accessory packs are not interchangeable with waterworks fittings but rather are used to ensure the completeness of the seal between the fitting and the pipe. Iron glands and accessory packs are sold through the same channels of distribution as fittings, that is, through waterworks distributors.

U.S. Tariff Treatment

Imports of waterworks fittings subject to this investigation are provided for in subheading 7307.19.30 of the Harmonized Tariff Schedule of the United States (HTS). The column 1-general (most-favored-nation or MFN) rate of duty for CDIW fittings is 6.2 percent ad valorem. Imports of separately imported T-head bolts, SBR gaskets, and standard ductile iron glands are provided for in HTS subheadings 7318.15.20, 4016.93.00, and 7307.19.90, respectively. Under these tariff provisions, the MFN rate of duty for T-head bolts is 0.7 percent ad valorem; the MFN rate for SBR gaskets is 3.5 percent ad valorem; and the MFN rate for standard ductile iron glands is 6.2 percent

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[31] Mr. Luna, testimony, hearing transcript, p. 66.

[32] AWWA/ANSI specification C153/A21.53 provides for compact ductile iron fittings, 3 inches through 16 inches in nominal diameter, for water and other liquids. AWWA/ANSI specification C110/A21.10 provides for full-bodied ductile iron and gray iron fittings, measuring 3 inches through 48 inches in nominal diameter, for use with water and other liquids.

ad valorem. If bolts and gaskets enter in a single shipment with an appropriate number of glands, the accessories are probably classified with the glands, assuming that Customs decides to treat them as entireties, and are dutiable at 6.2 percent ad valorem.

THE U.S. MARKET

U.S. Producers

In the Commission's preliminary investigation, questionnaires were sent to the five firms listed in the petition and to the two additional firms that, the Commission had reason to believe, produced the subject waterworks fittings. In this investigation, questionnaires were again sent to the 7 firms that supplied information in the preliminary investigation, and to an additional 28 firms. Firms in the latter group were sent questionnaires based on information obtained by the Commission from industry sources, including petitioners, that they produced either iron glands, SBR gaskets, and/or Cor-Ten steel T-head bolts. Responses were received from 25 firms, of which 10 indicated that they did not produce the subject products during the period for which information was requested. The same seven firms that supplied information on their waterworks fittings operations in the preliminary investigation also supplied information in this investigation. One other firm supplied information on its operations producing iron glands; one supplied information with respect to its operations packaging gland packs; three supplied information on their operations producing SBR gaskets; and two supplied information on their operations producing Cor-Ten steel T-head bolts. Information compiled from questionnaire responses of U.S. producers of SBR gaskets and Cor-Ten steel T-head bolts is presented in appendix D. Information concerning all known current U.S. producers of waterworks fittings and iron glands is presented in table 1.

American Cast Iron Pipe Co. (American Cast Iron) produces waterworks fittings and iron glands. It produces fittings in both ductile and gray iron, whereas glands are produced only in ductile iron. *** the sale of ductile iron pipe, valve products, welded steel pipe, and other steel products. As a share of total reported U.S. production in 1992 of all waterworks fittings and iron glands, American Cast accounted for *** percent and *** percent, respectively.

Petitioner Clow Water Systems Co. (Clow) is a wholly owned subsidiary of McWane, Inc., a Birmingham, AL, company with manufacturing interests in pipes, fittings, waterworks valves, and fire hydrants.[33] Clow has its corporate offices in Oak Brook, IL, and produces pressure pipe and waterworks fittings

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[33] Other principal operating companies under McWane's control include Atlantic States Cast Iron Co., Phillipsburg, NJ; Clow Valve Co., Oskaloosa, IA; Kennedy Valve Co., Elmira, NY; M & H Valve Co., Anniston, AL; McWane Cast Iron Pipe Co., Birmingham, AL; Pacific States Cast Iron Co., Provo, UT; and, Union Foundry Co., Anniston, AL. McWane also owns and controls two Canadian operations: Canada Pipe Co., located in Hamilton, Ontario, and Clow Canada, located in Concord, Ontario.

Table 1
Waterworks fittings and iron glands: Current U.S. producers, position on petition, location of production facility, products produced, ownership, and establishment employment and production, 1992

Firm	Position on petition	Location of production facility	Subject products produced	Parent	Percent of ownership
American Cast Iron Pipe Co.	***	Birmingham, AL	A,B,C,D,E	None	(1)
Clow Water Systems Co.	Petitioner	Coshocton, OH	A,B,C	McWane, Inc.	100
Griffin Pipe Products	***	Lynchburg, VA	A,B	***	***
Russell Pipe & Foundry	***	Alexander City, AL	C,D,E	None	(1)
Shelco Foundries	***	Jacksonville, AL	E	***	***
Tyler Pipe Industries, Inc.	Petitioner	Tyler, TX; Felton, GA	A,B,C,D,E,F[2]	Tyler Corp.	100
Union Foundry Co.	Petitioner	Anniston, AL	A,B,D,E	McWane, Inc.	100
U.S. Pipe & Foundry Co.	***	Chattanooga, TN	A,B,D,E	***	***

	Average number of workers[3] employed in 1992 in reporting establishment(s)	Share of reported employment	Reported establishment production in 1992		Share of total reported production	
			Waterworks fittings	Iron glands	Waterworks fittings	Iron glands
		Percent	1,000 pounds		Percent	
American Cast Iron Pipe Co.	***	***	***	***	***	***
Clow Water Systems Co.	***	***	***	(1)	***	(1)
Griffin Pipe Products	***	***	***	(1)	***	(1)
Russell Pipe & Foundry	***	***	***	(4)	***	(4)
Shelco Foundries	***	***	(1)	***	(1)	***
Tyler Pipe Industries, Inc.	***	***	***	***	***	***
Union Foundry Co.	***	***	***	***	***	***
U.S. Pipe & Foundry Co.	***	***	***	***	***	***

A=CDIW fittings. B=FBDIW fittings. C=FBGIW fittings. D=Other waterworks fittings. E=Iron glands. F=SBR gaskets. G=T-head bolts and nuts.

[1] Not applicable.
[2] Prior to April 1993, Tyler produced SBR gaskets through a subsidiary company known as Southeastern Assembly Co. In April 1993 Tyler sold the subsidiary to management and transferred gasket production to another Tyler-owned subsidiary, Tyler Couplings Co. located in Marshfield, MO.
[3] Production and related workers producing all products.
[4] Not available.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

at its production facility located in Coshocton, OH. Clow is also a sister company to another McWane-owned CDIW producer, Union Foundry Co.

Griffin Pipe Products, a wholly owned subsidiary of ***, produces compact and full-bodied ductile iron waterworks fittings at its production facility located in Lynchburg, VA. However, these waterworks fittings accounted for only *** percent of its overall establishment net sales in its most recent fiscal year. Ductile iron pressure pipe and gray iron soilpipe represent the majority of its manufacturing operations.

Russell Pipe & Foundry (Russell), which *** the petition, produces gray iron waterworks fittings and glands. Although Russell was unable to supply the Commission with data on its U.S. production of glands, its reported 1992 production of waterworks fittings accounted for *** percent of total U.S. production.

Shelco Foundries (Shelco), located in Jacksonville, AL, *** produces ductile iron glands using less than *** of its workforce of production and related workers. As a share of total U.S. production, it accounted for *** percent of the total in 1992.

Petitioner Tyler Pipe Industries (Tyler) is the largest U.S. producer of waterworks fittings and glands, accounting for *** percent and *** percent, respectively, of U.S. production of such products in 1992. It is one of two operating companies owned by Tyler Corp. of Dallas, TX, a holding company. During the period for which information was requested, Tyler or its related or affiliated companies produced ductile and gray iron waterworks fittings, iron glands, SBR gaskets, watermain pipe, fabricated pipe, tapping sleeves, municipal castings, retainer glands, valve and service boxes, and grooved and swivel hydrant fittings. Tyler also plans to begin manufacturing T-head nuts and bolts in the United States in late 1993.

Petitioner Union Foundry Co. (Union), owned by McWane, Inc., produces ductile iron waterworks fittings and glands at its manufacturing facility located in Anniston, AL. About *** percent of the value of Union's total establishment sales are accounted for by waterworks fittings; ductile iron glands account for about *** percent of such sales. As a share of total U.S. waterworks fittings and glands production, Union accounted for *** percent and *** percent, respectively, in 1992.

U.S. Pipe and Foundry Co. (U.S. Pipe), a subsidiary of ***, produces waterworks fittings (ductile iron only) and glands at its production facility located in Chattanooga, TN. U.S. Pipe typically sells waterworks fittings in conjunction with the sale of waterpipe.

The U.S. producers of SBR gaskets that the Commission's staff was able to identify include Champion Rubber, Inc. (Magnolia, TX); Reeves Rubber, Inc. (Albertville, AL); Southeastern Assembly Co. (a former Tyler-owned company located in Felton, GA); and Specification Rubber Products, Inc. (Alabaster, AL). According to information supplied by Champion and Southeastern, their SBR gaskets are dedicated exclusively for use with MJ and push-on waterworks fittings. Reeves Rubber and Specification Rubber, on the other hand, indicated that they produce SBR gaskets for various uses, including such uses

as waste container lids and hydrant and valve parts. The Commission's staff was also able to identify three U.S. producers of Cor-Ten steel T-head bolts. These include Birmingham Fastener & Supply, Inc. (Birmingham, AL); Unytite, Inc. (Peru, IL); and Vulcan Rivet & Bolt Corp. (Birmingham, AL). All three firms indicated that the T-head bolts produced by them are dedicated for use only with MJ waterworks fittings.

U.S. Importers

According to information presented in the petition and according to testimony presented at the Commission's conference held in connection with the preliminary investigation, two U.S. importers--Sigma Corp. (Sigma) and Star Pipe Products, Inc. (Star)--account for close to 100 percent of the U.S. imports of waterworks fittings and glands from China.[34] Sigma has been importing waterworks products into the United States and Canada since 1986. It is *** and is the larger of the two U.S. importers of CDIW fittings from China.[35]

Star, which imports waterworks fittings mostly from China and Brazil, started doing business in 1990 after it acquired the inventory of a firm that previously imported.[36] Star is ***-percent owned by ***.

Channels of Distribution

The vast majority of all waterworks fittings and component parts (that is, glands and/or accessory packs) sold in the United States, whether domestically produced or imported from China, are sold through waterworks distributors or so-called "waterworks houses." For certain producers, however, waterworks fittings are also sold directly to end-user customers in conjunction with the sale of water pipe. Similarly, a small percentage of glands is also sold to other domestic producers of waterworks fittings that do not produce the glands or accessory packs.

The prominence of waterworks distributors in the distribution chain has evolved only since the 1980s. Previously, sales of waterworks fittings were generally made directly from the manufacturer to the end user as part of the sale of water pipe.[37] Currently, U.S. waterworks distributors number in the thousands and generally handle the full spectrum of waterworks products, including iron glands, gland or accessory packs, pipes, valves, fire hydrants,

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[34] Petition, p. 8, and conference transcript, pp. 123 and 124.

[35] ***.

[36] Star ***. *** currently imports man-hole covers but not waterworks fittings.

[37] Conference transcript, p. 23.

and so forth.[38] Most waterworks distributors are independent firms, not owned by or affiliated with U.S. producers or importers.[39]

In terms of waterworks fittings and accessories, waterworks distributors are more active in smaller diameter fittings and accessories than in larger size products.[40] For this reason, distributors usually inventory a full and complete range of fittings and accessories in sizes 16 inches and under in diameter. This practice allows end users a greater flexibility in meeting their immediate requirements.

Apparent U.S. Consumption

Waterworks Fittings

Data on apparent U.S. consumption of waterworks fittings are presented in table 2. Reflecting a generally weak economy, particularly in the area of new construction and homebuilding, the quantity of apparent U.S. consumption fell irregularly by 7 percent from 1990 to 1992 and declined by 2 percent from January-March 1992 to January-March 1993. Apparent U.S. consumption decreased from *** pounds, valued at $***, in 1990 to *** pounds, valued at $***, in 1992. From January-March 1992 to January-March 1993, apparent U.S. consumption dipped from *** pounds, valued at $***, to *** pounds, valued at $***.

Iron Glands

Within the same size dimensions, MJ waterworks fittings, MJ water pipe, valves, and hydrants have common joints. Glands are used almost exclusively with these products because of the interchangeability of the joints.[41] In waterworks fittings, glands are used to secure the MJ fitting to the pipe with the aid of an SBR gasket and the requisite number of T-head bolts. Glands, like fittings, serve both the new construction market and the replacement or repair market. Given the various configurations of MJ waterworks fittings, for instance, crosses, tees, and wyes, no fewer than two and as many as four glands may be required for a given fitting.

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[38] Sigma Corp. alone sells imported waterworks fittings through more than 400 distributors throughout the United States (conference transcript, pp. 104 and 105). The company also sells imported products through two firms that it describes as "master wholesalers." These two so-called "master wholesalers" buy waterworks fittings from Sigma and then resell the products to distributors. These wholesalers are given exclusive territorial rights in markets that are limited in size. Such markets include Alabama, Florida, Georgia, Idaho, Kentucky, North and South Carolina, Oregon, and the State of Washington.

[39] One known exception is the relationship between Sigma Corp. and ***, a firm in which Sigma ***. *** is one of two "master wholesalers" of Sigma's imported waterworks products. *** is also partly owned by ***.

[40] Petitioners' posthearing brief, p. 11.

[41] Petition, p. 5. See also conference transcript, pp. 63 and 64.

Table 2
Waterworks fittings: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
	Quantity (1,000 pounds)				
Producers' U.S. shipments....	***	***	***	***	***
Importers' U.S. shipments:					
China (subject).....	***	***	***	***	***
Other sources.....	***	***	***	***	***
Total.....	***	***	***	***	***
Apparent consumption...	***	***	***	***	***
	Value (1,000 dollars)				
Producers' U.S. shipments....	***	***	***	***	***
Importers' U.S. shipments:					
China (subject).....	***	***	***	***	***
Other sources.....	***	***	***	***	***
Total.....	***	***	***	***	***
Apparent consumption...	***	***	***	***	***
	Share of the quantity of U.S. consumption (percent)				
Producers' U.S. shipments....	96.7	93.5	90.0	91.8	88.3
Importers' U.S. shipments:					
China (subject).....	2.4	4.1	6.6	5.3	6.5
Other sources.....	.9	2.4	3.4	2.9	5.1
Total.....	3.3	6.5	10.0	8.2	11.7
	Share of the value of U.S. consumption (percent)				
Producers' U.S. shipments....	97.0	94.9	92.8	94.1	92.4
Importers' U.S. shipments:					
China (subject).....	2.2	3.3	4.4	3.7	4.1
Other sources.....	.8	1.9	2.8	2.2	3.5
Total.....	3.0	5.1	7.2	5.9	7.6

Note.--Because of rounding, shares may not add to the totals shown.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

The quantity and value of apparent U.S. consumption of glands fluctuated appreciably during the period for which information was requested. Apparent U.S. consumption rose irregularly from *** pounds, valued at $***, in 1990 to *** pounds, valued at $***, in 1992 (table 3). The uneven 1990 to 1992 increase represented a 9-percent gain by quantity and a 15-percent gain by value. This trend continued into 1993 as the quantity and value of apparent U.S. consumption increased by 21 percent and 17 percent, respectively, from January-March 1992 to January-March 1993.

CONSIDERATION OF MATERIAL INJURY TO AN INDUSTRY IN THE UNITED STATES

The information in this section of the report was compiled from responses to questionnaires of the U.S. International Trade Commission. Seven firms, which are believed to account for virtually all U.S. production of waterworks fittings, supplied information on their operations producing waterworks fittings. These seven firms include American Cast Iron, Clow, Griffin Pipe Products, Russell, Tyler, Union, and U.S. Pipe. American Cast Iron, Tyler, Union, and U.S. Pipe also supplied information on their operations producing iron glands. Together with information supplied by another firm, Shelco Foundries, these five firms are believed to account for a significant share of the total of all U.S. production of iron glands used with waterworks products.

Two firms, Package Distribution Systems and Russell Pipe Sales Corp., supplied information on their operations involved in packaging/assembling gland or accessory packs.[42] Questionnaire responses were also received from two firms, Birmingham Fastener & Supply, Inc. (Birmingham, AL), and Unytite, Inc. (Peru, IL), that produce Cor-Ten steel T-head bolts, and from four firms, Champion Rubber, Inc. (Magnolia, TX); Reeves Rubber, Inc. (Albertville, AL); Specification Rubber Products, Inc. (Alabaster, AL); and Tyler, that produce SBR gaskets.

The information that follows is based on questionnaire responses of the firms mentioned above. Additional and summary information supplied by the responding firms is presented in appendix D.

U.S. Production, Capacity, and Capacity Utilization

Waterworks Fittings

U.S. production of all waterworks fittings declined irregularly from 194.5 million pounds in 1990 to 171.8 million pounds in 1992, a decrease of nearly 12 percent (table 4). Production continued to trend downward in 1993, falling from 45.2 million pounds in January-March 1992 to 38.9 million pounds in January-March 1993, a decrease of 14 percent. Although U.S. producers'

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[42] Package Distribution Systems ***. *** packages gland packs exclusively for the U.S. importer Sigma. Sigma, which has a ***-percent equity interest in ***, sells about *** percent of the volume of its U.S. imports of iron glands to *** for packaging into gland packs.

Table 3
Iron glands: U.S. shipments of domestic product, U.S. shipments of imports, and apparent U.S. consumption, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
	Quantity (1,000 pounds)				
Producers' U.S. shipments....	***	***	***	***	***
Importers' U.S. shipments:					
China (subject).....	***	***	***	***	***
Other sources.....	***	***	***	***	***
Total.....	***	***	***	***	***
Apparent consumption...	***	***	***	***	***
	Value (1,000 dollars)				
Producers' U.S. shipments....	***	***	***	***	***
Importers' U.S. shipments:					
China (subject).....	***	***	***	***	***
Other sources.....	***	***	***	***	***
Total.....	***	***	***	***	***
Apparent consumption...	***	***	***	***	***
	Share of the quantity of U.S. consumption (percent)				
Producers' U.S. shipments....	97.9	93.1	92.5	92.2	92.0
Importers' U.S. shipments:					
China (subject).....	0	1.6	4.9	6.3	1.1
Other sources.....	2.1	5.3	2.5	1.5	6.8
Total.....	2.1	6.9	7.5	7.8	8.0
	Share of the value of U.S. consumption (percent)				
Producers' U.S. shipments....	97.8	93.7	93.4	93.3	92.8
Importers' U.S. shipments:					
China (subject).....	0	1.4	4.1	5.1	.9
Other sources.....	2.2	5.0	2.5	1.5	6.2
Total.....	2.2	6.3	6.6	6.7	7.2

Note.--Because of rounding, shares may not add to the totals shown.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 4
Waterworks fittings: U.S. capacity, production, and capacity utilization, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
Average-of-period capacity (1,000 pounds)	282,237	279,951	286,177	71,695	71,596
Production (1,000 pounds)	194,473	160,236	171,827	45,151	38,869
Average-of-period capacity utilization (percent)	70.5	58.6	61.4	64.4	55.6

Note.--Capacity utilization is calculated using data of firms providing both capacity and production information.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

production capacity changed only marginally during the period for which information was requested, there was a noticeable decline in U.S. producers' capacity utilization. Capacity utilization declined from 71 percent in 1990 to 61 percent in 1992 and fell from 64 percent in January-March 1992 to 56 percent in the corresponding 1993 period.[43]

Data on U.S. producers' production capacity of CDIW fittings measuring not over 16 inches in nominal diameter are presented in table D-2. U.S. producers' capacity and production of such fittings represented a significant share of U.S. producers' overall capacity and production of all waterworks fittings,[44] as shown in the following tabulation (in percent):

* * * * * * *

Iron Glands

After falling by 10 percent to 22.4 million pounds from 1990 to 1991, U.S. producers' production of iron glands rose by 6 percent to 23.7 million pounds in 1992 and increased by 10 percent from January-March 1992 to January-March 1993 (table 5). U.S. producers' average-of-period capacity rose steadily during the period for which information was requested, increasing

[43] U.S. producers reported capacity on the basis of operating, on average, 56 hours per week, 48 weeks per year.

[44] Excluding ***, which was unable to provide usable detail on its CDIW fittings not over 16 inches.

Table 5
Iron glands: U.S. capacity, production, and capacity utilization, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
Average-of-period capacity (1,000 pounds).....	***	***	***	***	***
Production (1,000 pounds)....	24,789	22,423	23,746	5,051	5,555
Average-of-period capacity utilization (percent).....	***	***	***	***	***

Note.--Capacity utilization is calculated using data of firms providing both capacity and production information.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

from *** pounds in 1990 to *** pounds in 1992 and increasing from *** pounds in January-March 1992 to *** pounds in the comparable 1993 period. U.S. producers' capacity utilization fell unevenly from *** percent in 1990 to *** percent in 1992 and dropped from *** percent in January-March 1992 to *** percent in January-March 1993.

*** accounted for the bulk of U.S. production of glands used with CDIW fittings during the period for which information was requested. Their combined share of production totaled *** percent in 1990, *** percent in 1991, *** percent in 1992, and *** percent in the first 3 months of 1993.

Data on U.S. producers' production and production capacity of glands used with CDIW fittings by sizes are presented separately in tables D-9 and D-10. U.S. producers' production of ductile iron glands used with CDIW fittings not over 16 inches in nominal diameter as a share of U.S. production of all glands increased from *** percent in 1990 to *** percent in 1992, and increased to *** percent in the first three months of 1993, as shown in the following tabulation (in percent):

* * * * * * *

Although firms reported their production of glands on the basis of the intended use of the gland with specific types of waterworks fittings, as requested in the Commission's questionnaire, it should be noted that glands made of ductile iron may be used with either CDIW fittings, FBDIW fittings, or FBGIW fittings. The same is not true for glands made of gray iron, which are generally limited to use with gray iron fittings.

U.S. Producers' Shipments

Waterworks Fittings

The volume of U.S. producers' shipments of waterworks fittings is slowed or advanced, in part, by the level of spending for new residential construction or for repairs to existing municipal water systems. Slowed housing starts and delayed funding for capital spending projects by municipalities were particularly in evidence during the period for which information was requested in this investigation. Partly as a result of these adverse economic conditions, U.S. producers' total U.S. shipments (company transfers and domestic shipments) of waterworks fittings declined from *** pounds in 1990 to *** pounds in 1992 (table 6).[45] However, such shipments increased in value from $*** to $*** over the same period. From January-March 1992 to January-March 1993, such shipments fell from *** pounds, valued at $***, to *** pounds, valued at $***. The average unit value of U.S. producers' U.S. shipments rose steadily during the period for which information was requested, increasing from *** per pound in 1990 to *** per pound in the interim 1993 period.

As a share of the quantity of U.S. producers' U.S. shipments of all waterworks fittings, CDIW fittings not over 16 inches accounted for about *** of the total during the period for which information was requested, as shown in the following tabulation (in percent):

* * * * * * *

In terms of value, U.S. producers' U.S. shipments of CDIW fittings not over 16 inches as a share of U.S. producers' U.S. shipments of all waterworks fittings fell from *** percent in 1990 to *** percent in 1992, and dropped from *** percent in January-March 1992 to *** percent in January-March 1993.

The Commission's producers' questionnaire also requested U.S. producers to report their U.S. shipments of waterworks fittings on the basis of the number of individual pieces shipped. Only three firms, ***, ***, and ***, correctly supplied this information. As shown in the following tabulation, in terms of units, U.S. producers' U.S. shipments of CDIW fittings not over 16 inches in nominal diameter accounted for between *** percent and *** percent of U.S. producers' U.S. shipments of all waterworks fittings during the period for which information was requested:

* * * * * * *

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[45] Tyler's reported U.S. shipments declined by *** percent from 1990 to 1992 and by *** percent from January-March 1992 to January-March 1993. In his letter to shareholders in Tyler Corp.'s 1992 annual report, Robert R. Woodson, chief executive officer, states: "Again this year Tyler Pipe was confronted by depressed nonresidential construction markets which caused a decline in tonnage. Notwithstanding this drop in volume, better prices produced modestly higher sales and a significant advance in operating profit."

Table 6
Waterworks fittings: Shipments by U.S. producers, by types, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	Jan.-Mar.-- 1993
	Quantity (1,000 pounds)				
Company transfers	***	***	***	***	***
Domestic shipments[1]	187,891	158,505	162,123	36,775	34,770
Subtotal	***	***	***	***	***
Exports	***	***	***	***	***
Total	***	***	***	***	***
	Value (1,000 dollars)				
Company transfers	***	***	***	***	***
Domestic shipments[1]	153,266	142,362	154,802	33,834	36,651
Subtotal	***	***	***	***	***
Exports	***	***	***	***	***
Total	***	***	***	***	***
	Unit value (per pound)				
Company transfers	$***	$***	$***	$***	$***
Domestic shipments	.82	.90	.95	.92	1.05
Average	***	***	***	***	***
Exports	***	***	***	***	***
Average	***	***	***	***	***

[1] ***.

Note.--Unit values are calculated using data of firms supplying both quantity and value information.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

*** were the only two firms that reported export shipments of waterworks fittings during the period for which information was requested. However, such exports were relatively small, accounting for *** percent of the quantity and *** percent of the value of the two firms' combined total shipments in 1992.

Iron Glands

Iron glands intended for use with waterworks fittings are shipped to distributor customers in loose form (that is, separate from the fittings) or as part of an accessory pack. A small percentage of glands is also sold to other domestic producers of waterworks fittings that do not produce the glands

or accessory packs.[46] As a matter of course, U.S. producers generally do not record the number of accessory packs that are sold with fittings.[47] However, petitioners estimate that the vast majority of fittings and accessories are sold as a package.[48] Tyler, which accounts for *** of U.S. gland production, estimates that at least *** percent of its fittings are sold with accessory packs.

The quantity and value of U.S. producers' total shipments of iron glands (exports were negligible) increased unevenly from 1990 to 1992 and rose from January-March 1992 to January-March 1993. Such shipments increased from *** pounds, valued at $***, in 1990 to *** pounds, valued at $***, in 1992 (table 7). From January-March 1992 to January-March 1993, U.S. producers' total shipments rose from *** pounds, valued at $***, to *** pounds, valued at $***. The average unit value of such shipments fluctuated marginally from *** per pound in 1990 to *** per pound in 1992 and increased from *** per pound in January-March 1992 to *** per pound in the corresponding 1993 period.

The quantity of U.S. producers' U.S. shipments of ductile iron glands intended for use with CDIW fittings not over 16 inches in nominal diameter as a share of the quantity of U.S. producers' U.S. shipments of all glands rose from *** percent in 1990 to *** percent in 1992, and fell from *** percent in January-March 1992 to *** percent in the corresponding 1993 period, as shown in the following tabulation (in percent):

* * * * * * *

U.S. Producers' Inventories

Waterworks Fittings

U.S. producers' inventories of all waterworks fittings declined from 56.8 million pounds in 1990 to slightly over 51 million pounds in 1991-92 and fell from 57.4 million pounds in January-March 1992 to 53.3 million pounds in January-March 1993 (table 8). The ratio of inventories to production and the ratio of inventories to shipments fluctuated between 29 percent and 34 percent and between *** percent and *** percent, respectively, during the period for which information was requested.

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[46] Posthearing brief, p. 13, n. 12.
[47] Ibid., p. 12, n. 11.
[48] Ibid., pp. 12 and 13.

Table 7
Iron glands: Shipments by U.S. producers, by types, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	Jan.-Mar.-- 1993
	Quantity (1,000 pounds)				
Company transfers	***	***	***	***	***
Domestic shipments	18,537	14,687	18,343	3,847	4,252
Subtotal	***	***	***	***	***
Exports	***	***	***	***	***
Total	***	***	***	***	***
	Value (1,000 dollars)				
Company transfers	***	***	***	***	***
Domestic shipments	7,543	6,611	7,898	1,791	1,573
Subtotal	***	***	***	***	***
Exports	***	***	***	***	***
Total	***	***	***	***	***
	Unit value (per pound)				
Company transfers	$***	$***	$***	$***	$***
Domestic shipments	.51	.52	.46	.51	.48
Average	***	***	***	***	***
Exports	***	***	***	***	***
Average	***	***	***	***	***

Note.--Unit values are calculated using data of firms supplying both quantity and value information.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 8
Waterworks fittings: End-of-period inventories of U.S. producers, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
Inventories (1,000 pounds)...	56,753	51,329	51,375	57,392	53,330
Ratio of inventories to--					
Production (percent).....	29.2	32.0	29.9	31.8	34.3
U.S. shipments (percent)...	***	***	***	***	***
Total shipments (percent)..	***	***	***	***	***

Note.--Ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

U.S. producers' inventories of CDIW fittings not over 16 inches in nominal diameter as a share of inventories of all waterworks fittings increased steadily from 1990 to 1992 but then declined from January-March 1992 to January-March 1993, as shown in the following tabulation (in percent):

	1990	1991	1992	Jan.-Mar.-- 1992	1993
CDIW fittings not over 16".....	27.0	29.1	30.7	32.9	31.0

Iron Glands

U.S. producers' inventories of iron glands increased from *** pounds in 1990 to *** pounds in 1991 and 1992 (table 9). From January-March 1992 to January-March 1993, such inventories fell by just over 1 percent. The ratios of inventories to production and inventories to shipments increased sharply from 1990 to 1991 and then declined significantly from 1991 to 1992 and from January-March 1992 to January-March 1993.

U.S. Producers' Purchases

U.S. producers' purchases of U.S.-produced waterworks fittings decreased irregularly by 13 percent from 1990 to 1992 and increased by 34 percent from January-March 1992 to January-March 1993, as shown in the following tabulation (in 1,000 pounds):

* * * * * * *

Table 9
Iron glands: End-of-period inventories of U.S. producers, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

In contrast, U.S. producers' purchases of U.S.-produced glands used with CDIW fittings increased by 37 percent from 1990 to 1992 and decreased by 9 percent from January-March 1992 to January-March 1993. U.S. producers' purchases of Chinese-produced waterworks fittings fluctuated upward from 1990 to 1992 and decreased to *** from January-March 1992 to January-March 1993. Such purchases of glands used with CDIW fittings increased steadily during the period for which information was requested.

Employment, Wages, and Productivity

Waterworks Fittings

All seven firms that produce waterworks fittings were able to supply employment information related to their U.S. establishments in which waterworks fittings are produced. Of the seven firms responding to the questionnaire, three (***) indicated that they reduced the number of production and related workers (PRWs) producing waterworks fittings during the period for which information was requested. Of the *** PRWs affected by these reductions, *** were permanently displaced.[49] Reduced sales volume and lack of work were the two reasons cited by these three firms for their labor reductions. PRWs employed by all but two of the firms, ***, are covered under union contracts.[50]

Employment data supplied by U.S. producers are shown in table 10. Generally, the employment indicators declined from 1990 to 1991, increased from 1991 to 1992, and declined from January-March 1992 to January-March 1993. The total number of PRWs producing waterworks fittings fell by 8 percent from

[49] *** reported a permanent reduction of *** PRWs in 1991 and temporary reductions of *** and *** PRWs in 1992 and 1993, respectively. The duration of these temporary reductions was from *** to *** days. *** reported permanent reductions of *** and *** PRWs in 1992 and 1993, respectively. ***, on the other hand, reported a reduction of *** PRWs in 1990 and *** in 1992, *** of which were permanently displaced.

[50] *** indicated in its questionnaire response that ***.

Table 10
Average number of U.S. production and related workers producing waterworks fittings, hours worked,[1] wages and total compensation paid to such employees, and hourly wages, productivity, and unit production costs,[2] 1990-92, January-March 1992, and January-March 1993[3]

Item	1990	1991	1992	Jan.-Mar.-- 1992	Jan.-Mar.-- 1993
Production and related workers (PRWs)	1,890	1,732	1,740	1,730	1,738
Hours worked by PRWs (1,000 hours)	4,107	3,528	3,433	912	822
Wages paid to PRWs (1,000 dollars)	46,889	41,952	42,450	10,430	9,942
Total compensation paid to PRWs (1,000 dollars)	62,673	58,112	57,850	14,279	13,638
Hourly wages paid to PRWs	$11.42	$11.89	$12.37	$11.44	$12.09
Hourly total compensation paid to PRWs	$15.26	$16.47	$16.85	$15.66	$16.59
Productivity (pounds per hour)	47.4	45.4	50.1	49.5	47.3
Unit labor costs (per pound)	$0.32	$0.36	$0.34	$0.32	$0.35

[1] Includes hours worked plus hours of paid leave time.
[2] On the basis of total compensation paid.
[3] Firms providing employment data accounted for 100 percent of reported total U.S. shipments in 1992.

Note.--Ratios are calculated using data of firms supplying both numerator and denominator information.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

1990 to 1991 and increased only marginally (by 8 workers) from 1991 to 1992 and from January-March 1992 to January-March 1993. The number of hours worked and the total compensation paid to such workers declined steadily during the period for which information was requested. The number of hours worked by PRWs fell by 16 percent from 1990 to 1992 and by nearly 10 percent from January-March 1992 to January-March 1993. Similarly, total compensation paid to PRWs fell by 8 percent from 1990 to 1992 and declined by 4 percent from January-March 1992 to January-March 1993. Productivity of those same workers dipped from 47 pounds per worker hour in 1990 to 45 pounds per worker hour in 1991, increased to 50 pounds per worker hour in 1992, and fell from about the same level in January-March 1992 to 47 pounds per worker hour in January-March 1993. U.S. producers' unit labor costs, on a per-pound basis, increased from 32 cents in 1990 to 36 cents in 1991, fell back to 34 cents in 1992, and rose to 35 cents in January-March 1993 from 32 cents in the corresponding 1992 period.

Iron Glands

Five firms supplied employment information relating to their establishments in which glands are produced. All but one of these firms also produce waterworks fittings.

As shown in table 11, the number of PRWs employed in the five U.S. establishments fell by 16 percent, or by 42 workers, from 1990 to 1992 and increased by 51 workers, or by 25 percent, from January-March 1992 to January-March 1993. The number of hours worked by such workers rose steadily over the same period, increasing by 9 percent from 1990 to 1992 and by 6 percent from January-March 1992 to January-March 1993. Total compensation paid to PRWs increased irregularly, by slightly over 1 percent, from 1990 to 1992 and increased by nearly 13 percent from January-March 1992 to January-March 1993. Hourly total compensation paid to PRWs declined steadily from 1990 to 1992, falling from $15.56 per hour in 1990 to $14.43 per hour in 1992. However, this trend was reversed in the first 3 months of 1993 as hourly total compensation rose from $14.14 in January-March 1992 to $14.97 in the comparable 1993 period. Productivity of PRWs fell by nearly 14 percent from 1990 to 1991 and increased only slightly from 1991 to 1992 and from January-March 1992 to January-March 1993. U.S. producers' unit labor costs rose irregularly from 38 cents per pound in 1990 to 40 cents per pound in 1992, and increased by a penny per pound from January-March 1992 to January-March 1993.

Financial Experience of U.S. Producers

Seven producers,[51] accounting for all known U.S. production of waterworks fittings in 1992, supplied the financial data presented in this section.[52] Financial data for producers of CDIW fittings under 16 inches, iron glands, and gland (accessory) packs are also presented in this section.

Overall Establishment Operations

In addition to the products under investigation, the producers' establishments manufacture other types of fittings, pipes, valves, and castings on some of the same equipment as waterworks fittings. The overall establishment financial data are not presented in this report because of the wide variation in the proportion of fittings to total sales for each company.

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[51] These producers are American, Clow, Griffin, Russell, Tyler, Union, and U.S. Pipe.

[52] Summary financial data on the specific types of fittings (CDIW, full-bodied, and gray iron) as well as size delineation (over and under 16″) are presented in appendix D. Financial data for producers of SBR gaskets and Cor-ten steel T-head bolts are also presented in appendix D.

Table 11
Average number of U.S. production and related workers producing iron glands, hours worked,[1] wages and total compensation paid to such employees, and hourly wages, productivity, and unit production costs,[2] 1990-92, January-March 1992, and January-March 1993[3]

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
Production and related workers (PRWs)	267	235	225	205	256
Hours worked by PRWs (1,000 hours)	598	626	653	154	164
Wages paid to PRWs (1,000 dollars)	6,747	6,722	6,889	1,591	1,802
Total compensation paid to PRWs (1,000 dollars)	9,306	9,196	9,425	2,178	2,455
Hourly wages paid to PRWs	$11.28	$10.74	$10.55	$10.33	$10.99
Hourly total compensation paid to PRWs	$15.56	$14.69	$14.43	$14.14	$14.97
Productivity (pounds per hour)	41.5	35.8	36.4	32.8	33.9
Unit labor costs (per pound)	$0.38	$0.41	$0.40	$0.43	$0.44

[1] Includes hours worked plus hours of paid leave time.
[2] On the basis of total compensation paid.
[3] Firms providing employment data accounted for 100 percent of reported total U.S. shipments in 1992.

Note.--Ratios are calculated using data of firms supplying both numerator and denominator information.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Operations on All Waterworks Fittings

The income-and-loss experience of U.S. producers on their operations producing all waterworks fittings is presented in table 12. Net sales decreased by 9.0 percent, from $158.6 million in 1990 to $144.3 million in 1991. In 1992, sales were $157.3 million, an increase of 9.0 percent over 1991 sales. Operating losses were $2.7 million in 1990. Operating income was $35,000 in 1991 and $1.3 million in 1992. Operating income (loss) margins, as a ratio to net sales, were (1.7) percent in 1990, less than 0.05 percent in 1991, and 0.8 percent in 1992. Operating losses were incurred by five companies in 1990, three in 1991, and four in 1992.

Net sales in interim 1993 were $35.1 million, an increase of 4.6 percent over interim 1992 sales of $33.6 million. Operating income was $185,000 in interim 1992 and $108,000 in interim 1993. Four companies incurred operating losses in interim 1992 and interim 1993.

Table 12
Income-and-loss experience of U.S. producers on their operations producing all waterworks fittings, fiscal years 1990-92, January-March 1992, and January-March 1993[1] [2]

Item	1990	1991	1992	January-March-- 1992	1993
	Value (1,000 dollars)				
Net sales	158,627	144,283	157,326	33,552	35,112
Cost of goods sold	149,770	131,671	142,955	30,260	31,542
Gross profit	8,857	12,612	14,371	3,292	3,570
Selling, general, and administrative expenses	11,531	12,577	13,092	3,107	3,462
Operating income or (loss)	(2,674)	35	1,279	185	108
Startup or shutdown expense	***	***	***	***	***
Interest expense[3]	***	***	***	***	***
Other expense, net	***	***	***	***	***
Net (loss) before income taxes	(17,818)	(10,984)	(4,152)	(1,498)	(1,647)
Depreciation and amortization	4,930	6,886	6,987	1,647	1,811
Cash flow[4]	(12,888)	(4,098)	2,835	149	164
	Ratio to net sales (percent)				
Cost of goods sold	94.4	91.3	90.9	90.2	89.8
Gross profit	5.6	8.7	9.1	9.8	10.2
Selling, general, and administrative expenses	7.3	8.7	8.3	9.3	9.9
Operating income or (loss)	(1.7)	(5)	0.8	0.6	0.3
Net (loss) before income taxes	(11.2)	(7.6)	(2.6)	(4.5)	(4.7)
	Number of firms reporting				
Operating losses	5	3	4	4	4
Net losses	6	5	5	5	5
Data	7	7	7	7	7

[1] The producers are American, Clow, Griffin, Russell, Tyler, Union, and U.S. Pipe.

[2] Fiscal years for American, Clow, Russell, Union, and Tyler end December 31. U.S. Pipe's fiscal year ends May 31, and Griffin's ends September 30.

[3] Interest expense was primarily for two companies (***). ***.

[4] Cash flow is defined as net income or loss plus depreciation and amortization.

[5] Less than 0.05 percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Selected income-and-loss data, by company, are presented in table 13. There was a wide variation in performance among the producers. Some of these differences may be due to variations in product mix and such regional economic factors as the level of spending for nonresidential construction, governmental infrastructure expenditures, and seasonal spending patterns related to weather. These factors were noted in the annual reports of two of the producers.

As stated in Amstead's (Griffin) 1991 annual report:

"Ductile iron pressure pipe and fittings for water transmission and cast iron soil pipe for wastewater transmission are manufactured by Griffin Pipe Products Co. The level of housing starts and the improvements being made to municipal water systems are the principal factors underlying the demand for water and wastewater pipe."[53]

Tyler's 1992 annual report stated the following:

"Again this year Tyler Pipe was confronted by depressed nonresidential construction markets which caused a decline in tonnage. Notwithstanding this drop in volume, better prices produced modestly higher sales and a significant advance in operating profit."[54]

"The coming quarter's (1993) earnings comparison may be weak due to Tyler Pipe's unusual seasonal pattern in 1992. An extremely mild winter resulted in a significant volume increase during first-quarter 1992 while tonnage for the year as a whole was down modestly."[55]

Tyler's data were verified by the staff. ***.

Per-Unit Analysis

A summary of the income-and-loss data on all waterworks fittings, by firms, on a dollars-per-pound basis is shown in table 14. Because of the diverse product mix (size and/or type of fitting), the aggregate per-unit values do not reflect the wide variations among the individual producers.

In the aggregate, average unit sales values and the cost of goods sold increased in every subsequent period. However, the increase in unit sales values and unit costs may be due to a change in the product mix, i.e., larger units with higher value being produced and shipped.

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[53] Amstead Industries, "Operations Review," 1991 Annual Report, p. 8.

[54] Tyler Corporation, "Letter from the Chief Executive Officer", 1992 Annual Report, p. 4.

[55] Ibid., p.5.

Table 13
Income-and-loss experience of U.S. producers on their operations producing all waterworks fittings, by firms, fiscal years 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	January-March-- 1992	1993
	Value (1,000 dollars)				
Net sales:					
American	***	***	***	***	***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Total	158,627	144,283	157,326	33,552	35,112
Operating income or (loss):					
American	***	***	***	***	***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Total	(2,674)	35	1,279	185	108
	Ratio to net sales (percent)				
Operating income or (loss):					
American	***	***	***	***	***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	(1.7)	[1]	0.8	0.6	0.3

[1] Less than 0.05 percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 14
Income-and-loss experience on a dollars-per-pound basis of U.S. producers on their operations producing all waterworks fittings, by firms, fiscal years 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	January-March-- 1992	1993
	Quantity (pounds)				
Net sales:					
American	***	***	***	***	***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Total	185,825	160,717	167,582	38,395	36,135
	Value (per pound)				
Net sales:					
American	$***	$***	$***	$***	$***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	.85	.90	.94	.87	.97
Cost of goods sold:					
American	***	***	***	***	***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	.81	.82	.85	.79	.87
Gross profit or (loss):					
American	***	***	***	***	***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	.05	.08	.09	.09	.10

Continued on next page.

Table 14--Continued
Income-and-loss experience on a dollars-per-pound basis of U.S. producers on their operations producing all waterworks fittings, by firms, fiscal years 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	January-March-- 1992	1993
	Value (per pound)				
Selling, general, and administrative expenses:					
American	$***	$***	$***	$***	$***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	.06	.08	.08	.08	.10
Operating income or (loss):					
American	***	***	***	***	***
Clow	***	***	***	***	***
Griffin	***	***	***	***	***
Russell	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	(.01)	(2)	.01	(2)	(2)

[1] Less than (0.005.)
[2] Less than 0.005.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Operations on CDIW Fittings Not Over 16 Inches

In 1992, the three petitioners (Clow, Tyler, and Union) accounted for 89.0 percent of all reported sales of CDIW fittings under 16 inches, but only for 48.9 percent of sales of all waterworks fittings. U.S. producers' sales of such fittings and their shares of total sales are shown in the tabulation below (in 1,000 dollars, except as noted):

Company	All fittings	Percent	CDIW<16"	Percent
American.....	***	***	***	***
Clow.....	***	***	***	***
Griffin.....	***	***	***	***
Russell.....	***	***	***	***
Tyler.....	***	***	***	***
Union.....	***	***	***	***
U.S. Pipe....	***	***	***	***
Total.....	157,326	100.0	46,270	100.0

The income-and-loss experience of U.S. producers on their operations producing CDIW fittings under 16 inches is presented in table 15. Net sales decreased by 9.4 percent, from $46.4 million in 1990 to $42.0 million in 1991. In 1992, sales were $46.3 million, an increase of 10.2 percent over 1991 sales. Operating losses were $2.6 million in 1990. Operating income was $49,000 in 1991, but there was an operating loss of $449,000 in 1992. Operating income (loss) margins, as a ratio to net sales, were (5.5) percent in 1990, 0.1 percent in 1991, and (1.0) percent in 1992. Operating losses were incurred by two companies in 1990, one in 1991, and two in 1992.

Net sales in interim 1993 were $9.7 million, an increase of 2.0 percent over interim 1992 sales of $9.5 million. There was an operating loss of $242,000 in interim 1993, but there was an operating income of $153,000 in interim 1992. Three companies incurred operating losses in interim 1992 and interim 1993.

Selected income-and-loss data, by company, are presented in table 16. Factors affecting profitability differences between companies are similar to those regarding waterworks fittings.

A summary of the income-and-loss data for CDIW fittings under 16 inches, by firms, on a dollars-per-pound basis is shown in table 17. Factors affecting differences in unit values are similar to those regarding waterworks fittings.

Cost of Goods Sold Elements for All Waterworks Fittings

Iron is the basic raw material used in the production of fittings. In its 1992 annual report, Tyler indicated the following:

> "Tyler Pipe obtains iron, the basic raw material used in its products, by melting and refining iron and steel scrap to the required specifications. Most of the scrap metal is purchased directly from scrap dealers in areas where Tyler Pipe's trucks make deliveries and is returned to the plants by its trucks as backhaul. Other basic materials used include coke, limestone, fluorspar, resin, bentonite,

Table 15
Income-and-loss experience of U.S. producers on their operations producing CDIW fittings not over 16 inches, fiscal years 1990-92, January-March 1992, and January-March 1993[1] [2]

Item	1990	1991	1992	January-March-- 1992	1993
	Value (1,000 dollars)				
Net sales	46,379	42,001	46,270	9,532	9,723
Cost of goods sold	46,038	38,927	43,357	8,651	9,169
Gross profit	341	3,074	2,913	881	554
Selling, general, and administrative expenses	2,900	3,025	3,362	728	796
Operating income or (loss)	(2,559)	49	(449)	153	(242)
	Ratio to net sales (percent)				
Cost of goods sold	99.3	92.7	93.7	90.8	94.3
Gross profit	0.7	7.3	6.3	9.2	5.7
Selling, general, and administrative expenses	6.3	7.2	7.3	7.6	8.2
Operating income or (loss)	(5.5)	0.1	(1.0)	1.6	(2.5)
	Number of firms reporting				
Operating losses	2	1	2	3	3
Data	4	4	4	4	4

[1] The producers are Clow, Tyler, Union, and U.S. Pipe.
[2] Fiscal years for Clow, Tyler, and Union end Dec. 31. U.S. Pipe's fiscal year ends May 31.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 16
Income-and-loss experience of U.S. producers on their operations producing CDIW fittings not over 16 inches, by firms, fiscal years 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	January-March-- 1992	1993
	Value (1,000 dollars)				
Net sales:					
Clow	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Total	46,379	42,001	46,270	9,532	9,723
Operating income or (loss):					
Clow	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Total	(2,559)	49	(449)	153	(242)
	Ratio to net sales (percent)				
Operating income or (loss):					
Clow	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	(5.5)	0.1	(1.0)	1.6	(2.5)

[1] Less than (0.005) percent.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 17
Income-and-loss experience on a dollars-per-pound basis of U.S. producers on their operations producing CDIW fittings not over 16 inches, by firms, fiscal years 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	January-March-- 1992	January-March-- 1993
	Quantity (pounds)				
Net sales:					
Clow	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Total	63,529	54,000	57,170	11,778	11,868
	Value (per pound)				
Net sales:					
Clow	$***	$***	$***	$***	$***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	.73	.78	.81	.81	.82
Cost of goods sold:					
Clow	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	.72	.72	.76	.73	.77
Gross profit or (loss):					
Clow	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	.01	.06	.05	.07	.05
Selling, general, and administrative expenses:					
Clow	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	.05	.06	.06	.06	.07
Operating income or (loss):					
Clow	***	***	***	***	***
Tyler	***	***	***	***	***
Union	***	***	***	***	***
U.S. Pipe	***	***	***	***	***
Average	(.04)	(1)	(.01)	.01	(.02)

[1] Less than $0.005.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

silicon, sand and core oils, all of which have been generally available from multiple sources. Tyler Pipe experienced no problems in obtaining these materials during 1992. No shortages of basic raw materials appear imminent or likely. Tyler Pipe has no material contractual arrangements with any of its suppliers of raw materials."[56]

A breakdown of the cost of goods sold for all waterworks fittings, for 1992, is shown in the tabulation below (in thousands of dollars):

Cost element	Amount
Raw materials.....	22,430
Labor.....	26,654
Overhead.....	93,871
Total.....	142,955

Major overhead items include costs for energy, maintenance and repair, medical and health insurance, molds (patterns), and raw materials (additives). Industry practice is for the molds to be expensed to current operations, rather than capitalized (depreciated). Raw materials (additives) which are not used in the steel making process are considered as overhead expense in this industry.

Discussion of Tyler's Income-and-Loss Data

In its posthearing brief, Tyler said ***.[57] Also, Tyler ***.[58] [59] [60]

***.

***.

As indicated in the following section, based on the available financial data, ***.

Operations on Iron Glands and Gland (Accessory) Packs

Producers provided the following information with respect to their sources of iron glands and accessory packs:[61]

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[56] Tyler's 1992 10-K report, p. 3.
[57] Posthearing brief of the petitioner, pp. 2-3.
[58] Ibid, pp. 2-3.
[59] ***.
[60] Industry income-and-loss data for glands and gland packs are discussed later.
[61] A gland (accessory) pack consists of the iron gland, SBR gaskets, bolts, and nuts.

Company
American ***.

Clow ***.

Griffin ***.

Russell ***.

Tyler ***.

Union ***.

U.S. Pipe ***.

As noted above, five producers manufacture iron glands. Three of these producers (***) provided income-and-loss data on their operations producing iron glands. Iron glands, the main component of a gland (accessory) pack, make up about 70 percent of the cost of the accessory pack.[62] The main cost component of *** gland packs is ***.

The income-and-loss data for glands and gland packs include products used with all types of fittings, not just CDIW fittings under 16 inches. An income-and-loss summary for iron glands, by firms, is shown in the tabulation below (in thousands of dollars, except as shown):

				Interim	
	1990	1991	1992	1992	1993
Net sales:					
***.....	***	***	***	***	***
***.....	***	***	***	***	***
***.....	***	***	***	***	***
Total.....	10,667	11,351	10,852	2,183	2,900
Operating income or (loss):					
***.....	***	***	***	***	***
***.....	***	***	***	***	***
***.....	***	***	***	***	***
Total.....	(95)	(270)	(707)	(137)	(74)
Operating income or (loss) as a share of net sales:					
***.....	***	***	***	***	***
***.....	***	***	***	***	***
***.....	***	***	***	***	***
Average (percent)....	(0.9)	(2.4)	(6.5)	(6.3)	(2.6)

[62] Transcript of hearing, p. 91. Statement of Mr. Luna, Corporate Vice-President of McWane, Inc.

There are no current producers of all of the gland pack components.[63] Tyler produces iron glands internally and purchases SBR gaskets. It purchases bolts and nuts from outside sources, but it intends to initiate production of bolts and nuts in September.[64]

An income-and-loss summary for gland packs, by firms, is shown in the tabulation below (1,000 dollars, except as shown):

* * * * * * *

Investment in Productive Facilities

U.S. producers' investment in property, plant, and equipment and return on investment are shown in table 18.

Capital Expenditures

Capital expenditures by U.S. producers are shown in table 19.

Research and Development

Research and development expenses (by ***) were $*** in 1990, $*** in 1991, $*** in 1992, $*** in interim 1992, and $*** in interim 1993.

Capital and Investment

The Commission requested U.S. producers to describe and explain the actual and potential negative effects of imports of CDIW fittings and accessories thereof and of iron glands and gland packs from China on their growth, investment, ability to raise capital, and existing development and production efforts, including efforts to develop a derivative or improved version of their product. Their responses are presented in appendix E.

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[63] ***.

[64] Statement by Joel Blair, Utility Sales Manager, Tyler, Transcript of hearing, p. 92.

Table 18
All waterworks fittings: Value of assets of U.S. producers' establishments wherein all waterworks fittings are produced, fiscal years 1990-92, January-March 1992, and January-March 1993

(In thousands of dollars)

Item	As of the end of fiscal year-- 1990	1991	1992	As of March 31-- 1992	1993
Fixed assets:					
Original cost	90,169	103,399	102,771	102,022	104,586
Book value	31,412	38,962	34,667	35,992	32,767

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 19
All waterworks fittings: Capital expenditures by U.S. producers of all waterworks fittings, fiscal years 1990-92, January-March 1992, and January-March 1993

(In thousands of dollars)

Item	1990	1991	1992	January-March-- 1992	1993
Land and land improvements	***	***	***	***	***
Building and leasehold improvements	***	***	***	***	***
Machinery, equipment, and fixtures	***	***	***	***	***
Total	6,795	12,756	3,987	1,926	713

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

CONSIDERATION OF THE QUESTION OF THREAT OF MATERIAL INJURY TO AN INDUSTRY IN THE UNITED STATES

Section 771(7)(F)(i) of the Tariff Act of 1930 (19 U.S.C. § 1677(7)(F)(i)) provides that--

> In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the merchandise, the Commission shall consider, among other relevant economic factors[65]--
>
> > (I) If a subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the subsidy is an export subsidy inconsistent with the Agreement),
> >
> > (II) any increase in production capacity or existing unused capacity in the exporting country likely to result in a significant increase in imports of the merchandise to the United States,
> >
> > (III) any rapid increase in United States market penetration and the likelihood that the penetration will increase to an injurious level,
> >
> > (IV) the probability that imports of the merchandise will enter the United States at prices that will have a depressing or suppressing effect on domestic prices of the merchandise,
> >
> > (V) any substantial increase in inventories of the merchandise in the United States,
> >
> > (VI) the presence of underutilized capacity for producing the merchandise in the exporting country,
> >
> > (VII) any other demonstrable adverse trends that indicate the probability that the importation (or sale for importation) of the merchandise (whether or not it is actually being imported at the time) will be the cause of actual injury,

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[65] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "Any determination by the Commission under this title that an industry in the United States is threatened with material injury shall be made on the basis of evidence that the threat of material injury is real and that actual injury is imminent. Such a determination may not be made on the basis of mere conjecture or supposition."

> (VIII) the potential for product-shifting if production facilities owned or controlled by the foreign manufacturers, which can be used to produce products subject to investigation(s) under section 701 or 731 or to final orders under section 706 or 736, are also used to produce the merchandise under investigation,
>
> (IX) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both), and
>
> (X) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the like product.[66]

The available information on the volume, U.S. market penetration, and pricing of imports of the subject merchandise (items (III) and (IV) above) is presented in the section entitled "Consideration of the Causal Relationship Between Imports of the Subject Merchandise and the Alleged Material Injury;" and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts (item (X)) is presented in appendix E. Available information on U.S. inventories of the subject products (item (V)); foreign producers' operations, including the potential for "product-shifting" (items (II), (VI), and (VIII) above); any other threat indicators, if applicable (item (VII) above); and any dumping in third-country markets, follows. Other threat indicators have not been alleged or are otherwise not applicable.

U.S. Importers' Inventories

Waterworks Fittings

U.S. importers' inventories of the subject Chinese CDIW fittings measuring not over 16 inches in nominal diameter increased from *** pounds in 1990

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[66] Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other GATT member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

to *** pounds in 1991, declined to *** pounds in 1992, and fell from *** pounds in January-March 1992 to *** pounds in January-March 1993 (table 20). The ratio of inventories to imports of the Chinese products fell unevenly from *** percent in 1990 to *** percent in 1992, and increased, due to significantly reduced imports, from *** percent in January-March 1992 to *** percent in the corresponding 1993 period.

Iron Glands

U.S. importers reported no inventories of Chinese-produced iron glands in 1990 (table 21). However, such inventories totaled *** pounds in 1991, declined to *** pounds in 1992, and declined from *** pounds in January-March 1992 to *** pounds in January-March 1993. The ratio of inventories to imports fell significantly from 1991 to 1992.

Ability of Foreign Producers to Generate Exports and the Availability of Export Markets Other Than the United States

According to information compiled during the Commission's preliminary investigation, two Chinese factories produce and export waterworks fittings and iron glands to the United States of a quality that meets the standards set by the AWWA/ANSI.[67] According to the testimony presented at the Commission's conference by Mr. Siddharth Bhattacharji, vice president, Sigma Corp., these two factories produce exclusively for U.S. importers.[68] Song Zhuang Foundry Factory (Song Zhuang) and Bin He Foundry (Bin He), both of which are under the control of the China National Metals Products Import & Export Corp. (CNMP), produce almost exclusively for Sigma; the Xiangfan Tractor Factory, controlled by Hubei Mineral and Metals Import and Export Corp. (Hubei), produces almost exclusively for Star. Information presented in this section of the report was provided by counsel for CNMP on behalf of Song Zhuang and Bin He. Hubei did not respond to the Commission's request for information in this investigation.[69]

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[67] Conference transcript, pp. 115 and 116.

[68] Ibid., p. 124.

[69] Hubei did supply information, with respect to its Xiangfan Tractor Factory operations, in the Commission's preliminary investigation. In response to the Commission's foreign producers' questionnaire in the preliminary investigation, Hubei stated that its factory was primarily engaged in the manufacture of tractor engines and trailers and that CDIW fittings and glands accounted for about *** percent of its aggregate annual sales. Based on the data provided, Hubei's Xiangfan Tractor Factory operated at near *** percent capacity in 1990 and 1991. *** was also projected for 1992 and 1993. Furthermore, Hubei projected that its exports to the United States, which *** from 1990 to 1991, would *** production in 1992 and *** in 1993.

Table 20
Waterworks fittings: End-of-period inventories of U.S. importers, by sources, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
*	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 21
Iron glands: End-of-period inventories of U.S. importers, by sources, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
*	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Waterworks Fittings

The combined production of all waterworks fittings by Song Zhuang and Bin He increased steadily from 1990 to 1992, rising from *** pounds in 1990 to *** pounds in 1992 but then falling sharply from *** pounds in January-March 1992 to *** pounds in January-March 1993 (table 22). Exports to the United States increased from *** pounds in 1991 and to *** pounds in 1992 and then fell from *** pounds in January-March 1992 to *** pounds in January-March 1993. End-of-period inventories of waterworks fittings declined steadily from 1990 to 1992, falling by *** percent from 1990 to 1991 and by *** percent from 1991 to 1992. Such inventories declined by *** percent from January-March 1992 to January-March 1993.

Production of the subject CDIW fittings (that is, 16 inches and under in nominal diameter) as a share of all waterworks fittings production increased from *** percent in 1990 to *** percent in 1992 and decreased from *** percent in January-March 1992 to *** percent in the comparable 1993 period. The subject CDIW fittings accounted for between *** and *** percent of Song Zhuang's and Bin He's total exports of waterworks fittings to the United States during 1991 and 1992.

Table 22
All waterworks fittings and iron glands: Capacity, production, export shipments, and inventories of Bin He and Song Zhuang Foundries, 1990-92, January-March 1992, and January-March 1993

(1,000 pounds, except as noted)

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
*	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Iron Glands

Data on Song Zhuang's and Bin He's production, export shipments, and inventories of iron glands are also shown in table 22. The trends in production and exports to the United States are similar to those for waterworks fittings, that is, significant increases from 1990 to 1991, somewhat less dramatic increases from 1991 to 1992, and significant decreases from January-March 1992 to January-March 1993. The United States accounted for more than *** percent of total exports in 1991 and 1992. Both factories reported *** inventories.

CONSIDERATION OF THE CAUSAL RELATIONSHIP BETWEEN IMPORTS OF THE SUBJECT MERCHANDISE AND THE ALLEGED MATERIAL INJURY

U.S. Imports

Sigma and Star account for nearly 100 percent of U.S. imports of waterworks fittings and iron glands from China.[70] The questionnaire responses of the six U.S. importers (including Sigma and Star) that supplied data are therefore relied upon in lieu of official import statistics.

Waterworks Fittings

U.S. imports of all waterworks fittings rose from *** pounds, valued at $***, in 1990 to *** pounds, valued at $***, in 1992 (table 23). From January-March 1992 to January-March 1993, U.S. imports declined from *** pounds, valued at $***, to *** pounds, valued at $***. The average unit value (on a per pound basis) of U.S. imports increased from *** cents in 1990 to *** cents in 1991 and 1992 and increased from *** cents to *** cents from January-March 1992 to January-March 1993. U.S. imports of the subject CDIW fittings measuring 16 inches and under from China rose similarly, increasing from ***

[70] Neither Sigma nor Star imports complete accessory packs.

Table 23
Waterworks fittings: U.S. imports, by sources, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
*	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

pounds, valued at $***, in 1990 to *** pounds, valued at $***, in 1992. Such imports fell significantly from January-March 1992 to January-March 1993, declining from *** pounds, valued at $***, to *** pounds, valued at $***. The average unit value (per pound) of the subject imports was unchanged at *** cents in 1990 and 1991, increased to *** cents in 1992, and rose from *** cents in January-March 1992 to *** cents in January-March 1993.

In the Commission's questionnaire, U.S. importers were asked whether they had arranged for the importation of the subject CDIW fittings from China for delivery after March 31, 1993. Only *** responded in the affirmative, stating that it plans to take delivery of an estimated ***, or *** pounds of CDIW fittings during the months of *** and *** 1993.

Iron Glands

Data on U.S. imports of iron glands are presented in table 24. As shown, the quantity of U.S. imports increased irregularly from *** pounds (valued at $***) in 1990 to *** pounds (valued at $***) in 1992. U.S. imports declined from *** pounds (valued at $***) in January-March 1992 to *** pounds (valued at $***) in the corresponding 1993 period. The average unit value of U.S. imports fell by 14 percent, from *** cents in 1990 to *** cents per pound in 1991, increased by 36 percent to *** cents per pound from 1991 to 1992, and increased by 4 percent, from *** cents to *** cents per pound, from January-March 1992 to January-March 1993.

U.S. imports of iron glands for use with the subject CDIW fittings not over 16 inches in nominal diameter from China increased irregularly from *** pounds, valued at $***, in 1990 to *** pounds, valued at $***, in 1992. Such imports fell to virtually nil from January-March 1992 to January-March 1993.

Critical Circumstances

So that the Commission might consider the question of critical circumstances, Sigma and Star were both asked to supply information on their imports from China of CDIW fittings not over 16 inches and iron glands, by

Table 24
Iron glands: U.S. imports, by sources, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
*	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

month, from January 1992 through June 1993. The combined monthly imports as reported are shown in the following tabulation:

* * * * * * *

Market Penetration of Imports

Waterworks Fittings

The quantity and value of U.S. importers' U.S. shipments of the subject waterworks fittings imported from China as a share of apparent U.S. consumption of all waterworks fittings rose steadily during the period for which information was requested.[71] Such shipments increased from 2.4 percent of the quantity and 2.2 percent of the value of apparent U.S. consumption in 1990 to 6.6 percent and 4.4 percent of the quantity and value, respectively, of apparent U.S. consumption in 1992 (table 25). From January-March 1992 to January-March 1993, the market penetration of U.S. importers' shipments by quantity rose by over one percentage point, increasing to 6.5 percent. The market penetration of such shipments by value also increased over the same period but by less than a full percentage point. U.S. producers' market share in quantity fell steadily during the period for which information was requested, falling by 6.8 percentage points from 1990 to 1992 and by 3.5 percentage points from January-March 1992 to January-March 1993.

Iron Glands

The market share of U.S. importers' U.S. shipments of subject Chinese-produced iron glands for use with all fittings rose from zero in 1990 to 5.0 percent and 4.1 percent by quantity and value, respectively, in 1992 (table 26).[72] U.S. importers' market share fell by just over 5 percentage points by quantity from January-March 1992 to January-March 1993. By value, the drop in market share over the same period was 4 percentage points.

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[71] See table D-2 for market shares relating to CDIW fittings not over 16 inches in nominal diameter.

[72] See table D-9 for market shares relating to iron glands used with CDIW fittings not over 16 inches in nominal diameter.

Table 25
Waterworks fittings: Market penetration, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
	Share of the quantity of apparent U.S. consumption (percent)				
Producers' U.S. shipments....	96.7	93.5	90.0	91.8	88.3
Importers' U.S. shipments:					
China (subject).....	2.4	4.1	6.6	5.3	6.5
Other sources.....	.9	2.4	3.4	2.9	5.1
Total.....	3.3	6.5	10.0	8.2	11.7
	Share of the value of apparent U.S. consumption (percent)				
Producers' U.S. shipments....	97.0	94.9	92.8	94.1	92.4
Importers' U.S. shipments:					
China (subject).....	2.2	3.3	4.4	3.7	4.1
Other sources.....	.8	1.9	2.8	2.2	3.5
Total.....	3.0	5.1	7.2	5.9	7.6

Note.--Because of rounding, shares may not add to the totals shown.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 26
Iron glands: Market penetration, 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993
	Share of the quantity of apparent U.S. consumption (percent)				
Producers' U.S. shipments....	97.9	93.1	92.5	92.2	92.0
Importers' U.S. shipments:					
China (subject).....	0	1.6	5.0	6.3	1.1
Other sources.....	2.1	5.3	2.5	1.5	6.8
Total.....	2.1	6.9	7.5	7.8	8.0
	Share of the value of apparent U.S. consumption (percent)				
Producers' U.S. shipments....	97.8	93.7	93.4	93.3	92.8
Importers' U.S. shipments:					
China (subject).....	0	1.4	4.1	5.1	.9
Other sources.....	2.2	5.0	2.5	1.5	6.2
Total.....	2.2	6.3	6.6	6.7	7.2

Note.--Because of rounding, shares may not add to the totals shown.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Prices

Marketing Considerations

U.S. producers sell CDIW fittings primarily to unrelated distributors (known in the trade as "waterworks houses") and to a lesser extent to contractors and municipal or regional water authorities.[73] Importers sell only to distributors. CDIW fittings are sold either as part of a package that includes an entire waterworks system or separately as a component in a system with parts provided by many suppliers. Four of six domestic producers of CDIW fittings report that they also sell water pipe, but only two stated that CDIW fittings are typically part of a sale that includes water pipe.[74] Sigma and Star (the two major importers of Chinese CDIW fittings) do not sell water pipe.

Domestic producers reported that their CDIW fittings are shipped from their plants either directly to jobsites or to distributors that sell to end users. Sigma stated that it supplies its distributors either from three warehouses located in New Jersey, Texas, and California or from its two "master" distributors located in Alabama and the State of Washington. The master distributors maintain large inventories of CDIW fittings and sell only to other distributors.[75]

Municipalities typically request bids for the construction of new waterworks systems from contractors who, in turn, negotiate prices with distributors and/or producers[76] of waterworks components. Occasionally, municipalities request bids from CDIW fittings producers and waterworks houses directly to supply waterworks components that the municipality will use to repair or extend existing systems.[77]

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[73] *** reported that they sold CDIW fittings exclusively to distributors; *** stated that they sold directly to municipalities and water authorities as well as to distributors.

[74] Mr. Luna of McWane, Inc., reported that sales of over 16-inch diameter iron waterworks fittings and accessories thereof are typically sold for use in large municipal public works projects. In these cases, the pipe, pipe fittings, accessories, etc. are sold together (bundled) at a bottom-line price for the entire project and it is difficult to distinguish the price of the fittings. Alternatively, sales of 16-inch and under diameter waterworks fittings and accessories thereof are typically not bundled together with the pipe sales. Hearing transcript, p. 84.

[75] One of these master distributors (***) is ***. Telephone conversation with ***, Aug. 4, 1992.

[76] *** reported that some contractors prefer to deal directly with pipe and fitting producers in order to get a better price, while others purchase their waterworks components through distributors because distributors can often supply a complete package of components including valves, meters, manhole covers, etc.

[77] A few municipalities, such as Washington, DC, Los Angeles, and San Francisco, request bids directly from waterworks suppliers to provide the components of waterworks systems. Telephone conversation with ***, Aug. 3, 1992.

Waterworks components are sold to municipalities and to regional water authorities following a formal bid process that results in contracts specifying price and quantity. Sales to distributors, however, are made on a spot or on an informal agreement basis, and neither domestic producers nor importers sign contracts with their distributors. Consequently, prices are often subject to change without notice, although both producers and importers report that they try to avoid fluctuations in price. *** reported that it will sometimes agree to hold its price to a distributor who has quoted a fixed price to a contractor.[78] *** stated that it will agree to maintain its price to certain distributors for 1 year if those distributors buy a certain volume of fittings from ***.[79]

Four of six U.S. producers and the two major importers of Chinese CDIW fittings stated that they publish price lists[80] and that distributors are assigned a multiplier to apply to that price list. The multipliers were reported to be based on factors such as shipping costs, sales volumes, and levels of competition.

Three domestic producers and *** offered discounts for prompt payment. *** reported a 2-percent discount for payment within 30 days; *** reported the same discount for payment within 15 days; and *** reported a 1/2-percent discount for payment within 10 days. *** reported a 2-percent discount for payment within 10 days. In addition, *** reported that recently it has given ***. No other producer or importer has ***.

All prices for CDIW fittings shipped in quantities greater than one truckload (approximately 40,000 pounds) are quoted on a delivered basis, and purchasers typically pay the freight costs on smaller shipments.[81] Four domestic producers reported that transportation costs for CDIW fittings accounted for between 1 and 10 percent of the total delivered cost. *** reported that transportation costs account for 5 percent of the total delivered cost. Both domestic producers and importers reported that shipments are made exclusively by truck and that their market area is the entire United States.

*** reported the shortest average lead time (3 days) between a customer's order and the date of delivery, whereas *** reported the longest (10 weeks) of the five domestic producers that responded to this question. *** stated that its average lead time was between *** and ***, and *** reported an average of *** between order and delivery.

Most U.S. producers and importers stated that the domestic product and imported Chinese product were used interchangeably and that differences in quality were not a factor. However, *** reported that their fittings had an

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[78] Conversation with ***, July 23, 1992.

[79] Telephone conversation with ***, Aug. 1, 1992.

[80] *** reported that although it does not publish a company price list, its salesmen will often ***.

[81] *** reported that it pays transportation costs for shipments in excess of 10,000 pounds.

advantage over the imported product because they are established companies and customers know that they will be available to stand behind their products.[82] Tyler also emphasizes its willingness to provide a full product line, as well as the quality and availability of its products.[83] *** reported that buyers often prefer domestic sources because of their greater product range, availability, and the security of dealing with a large domestic company.[84]

All six of the responding U.S. producers and one of the two responding importers reported that FBDIW fittings and CDIW fittings can generally be used in the same applications. Most of the producers and importers reported that, in some cases, job specifications require one or the other.[85] Several producers reported that if job specifications allow CDIW fittings, they are generally chosen over FBDIW fittings because of their lower unit cost, lower cost of installation, and greater availability. Three of the U.S. producers and one of the importers reported that their sales of CDIW fittings have increased relative to their sales of FBDIW fittings as more end users have accepted the use of CDIW fittings.

All six of the responding U.S. producers reported that gray iron waterworks fittings and CDIW fittings can generally be used for the same applications, whereas both importers reported that the products are not interchangeable.[86] Three U.S. producers reported that CDIW fittings can be substituted when gray iron fittings are specified, but gray iron fittings cannot be substituted when CDIW fittings are specified because CDIW fittings are more durable and have a higher pressure rating. Three U.S. producers reported that their sales of CDIW fittings have increased relative to their sales of gray iron fittings, citing greater overall acceptance and demand for CDIW fittings.

Most U.S. producers and importers reported that under 16 inch and over 16 inch waterworks fittings are used in the same applications (to convey water or other liquids). One producer reported that the smaller sizes (6 to 8 inch)

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[82] Joel Blair of Tyler acknowledged that distributors sometimes prefer to buy waterworks fittings from an established domestic producer because of liability concerns. If a U.S.-produced fitting is found to be defective, the domestic producer will replace it at the job site. However, it is generally more difficult to compel a foreign producer to replace defective fittings. Hearing transcript, pp. 70-74.

[83] Hearing transcript, p. 21.

[84] Petitioners maintain that there are very few cities in the United States that have "Buy American" policies.

[85] Mr. Luna of McWane, Inc., reported that there are municipalities that require full-bodied fittings because they have corrosive soil conditions and they want thicker walls for sacrificial purposes. Hearing transcript, p. 88.

[86] Mr. Luna of McWane, Inc., reported that it is possible to retrofit (replace) a fitting in a gray iron system with a CDIW fitting, but you would have to use a pipe extension with a spool and sleeve because the laying length of the CDIW fitting would be much shorter. Because of this, the fittings are not truly interchangeable in this situation. Hearing transcript, p. 57.

are used for distribution purposes, whereas the larger sizes (18 to 24 inch) are used for transmission or feeder lines. Two producers and one of the importers reported that the job specifications determine the size of the fitting used.

Most U.S. producers and importers reported that PVC fittings could be substituted for iron waterworks fittings in some applications. However, Union reported that PVC fittings have a poor reputation for performance and quality.[87]

Questionnaire Price Data

The Commission requested U.S. producers and importers to provide U.S. delivered prices and total quantities and values of three representative CDIW fittings products and their corresponding accessory kits. The Commission also requested U.S. producers and importers to provide price data for separate sales of the accessory kits and glands used with products 1 and 2. Additionally, the Commission requested U.S. producers to report price data for sales of an 18-inch diameter CDIW fittings product and two representative fittings products of both full-bodied ductile iron and gray iron. For each product listed below, the Commission requested price data for the largest sale to unrelated U.S. distributors for each quarter during January 1990-March 1993.

Product 1. Compact ductile iron (ASTM A536) mechanical joint, conforming to AWWA/ANSI specification C153/A21.53, 1/4 (90-degree) bend, 6-inch nominal diameter, cement-lined, tar-coated, rated for waterworking pressure of 350 PSI. Two accessory kits: each consisting of a ductile iron gland (6-inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 6 T-Bolts (AWWA C111, ANSI A21.11).

Product 2. Compact ductile iron (ASTM A536) mechanical joint, conforming to AWWA/ANSI specification C153/A21.53, 8-inch by 6-inch T, 8-inch nominal diameter main, 6-inch nominal branch, cement-lined, tar-coated, rated for waterworking pressure of 350 PSI. Three accessory kits: two each consisting of a ductile iron gland (8-inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 6 T-Bolts (AWWA C111, ANSI A21.11), and one kit consisting of a ductile iron gland (6-inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 6 T-Bolts (AWWA C111, ANSI A21.11).

Product 3. Compact ductile iron (ASTM A536) mechanical joint, conforming to AWWA/ANSI specification C153/A21.53, 6-inch by 12-inch straight sleeve, 6-inch nominal diameter, tar-coated, rated for waterworking pressure of 350 PSI. Two accessory kits: each consisting of a ductile iron gland (6-inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 6 T-Bolts (AWWA C111, ANSI A21.11).

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[87] Hearing transcript, p. 66.

Product 4. Compact ductile iron (ASTM 536) mechanical joint, conforming to AWWA/ANSI specification C110/A21.10, 1/8 (45 degree) bend, 18-inch nominal diameter, cement-lined, tar-coated, rated for waterworking pressure of 250 PSI. Two accessory kits: each consisting of a ductile iron gland (18-inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 12 T-Bolts (AWWA C111, ANSI A21.11).

Product 5. Full-bodied ductile iron (ASTM 536) mechanical joint, conforming to AWWA/ANSI specification C110/A21.10, 1/4 (90 degree) bend, 6-inch nominal diameter, cement-lined, tar-coated, rated for waterworking pressure of 350 PSI. Two accessory kits: each consisting of a ductile iron gland (6-inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 6 T-Bolts (AWWA C111, ANSI A21.11).

Product 6. Full-bodied ductile iron (ASTM 536) mechanical joint, conforming to AWWA/ANSI specification C110/A21.10, 1/8 (45 degree) bend, 24-inch nominal diameter, cement-lined, tar-coated, rated for waterworking pressure of 250 PSI. Two accessory kits: each consisting of a ductile iron gland (24-inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 16 T-Bolts (AWWA C111, ANSI A21.11).

Product 7. Gray iron (ASTM 674) mechanical joint, conforming to AWWA/ANSI specification C110/A21.10, 1/4 (90 degree) bend, 6-inch nominal diameter, cement-lined, tar-coated, rated for waterworking pressure of 250 PSI. Two accessory kits: each consisting of a gray iron gland (6-inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 6 T-Bolts (AWWA C111, ANSI A21.11).

Product 8. Gray iron (ASTM 674) mechanical joint, conforming to AWWA/ANSI specification C110/A21.10, 1/8 (45 degree) bend, 20-inch nominal diameter, cement-lined, tar-coated, rated for waterworking pressure of 150 PSI. Two accessory kits: each consisting of a gray iron gland (20 inch diameter), SBR gasket (AWWA C111, ANSI A21.11), and 14 T-Bolts (AWWA C111, ANSI A21.11).

Five U.S. producers and four importers of the Chinese subject product provided pricing data, although not necessarily for all products or quarters during January 1990-March 1993. The responding U.S. producers accounted for 83 percent of total reported U.S. production of CDIW fittings in 1992. Responding importers of the Chinese products accounted for close to 100 percent of the U.S. imports from China in 1992. Delivered prices for sales of U.S.-produced and imported Chinese products 1 to 4 to distributors are presented in tables 27 to 30 and figures 3 and 4.

Table 27
CDIW fittings and accessories thereof: Weighted-average net delivered prices of product 1 sold to distributors, by quarters, January 1990-March 1993

Period	United States			China		
	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units
	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 28
CDIW fittings and accessories thereof: Weighted-average net delivered prices of product 2 sold to distributors, by quarters, January 1990-March 1993

Period	United States			China		
	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units
	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 29
CDIW fittings and accessories thereof: Weighted-average net delivered prices of product 3 sold to distributors, by quarters, January 1990-March 1993

Period	United States			China		
	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units
	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 30
CDIW fittings and accessories thereof: Weighted-average net delivered prices of U.S.-produced product 4 sold to distributors, by quarters, January 1990-March 1993

Period	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units
*	*	*	*	*	*	*

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 3
CDIW fittings: Weighted-average net delivered prices of products 1 and 2 sold to distributors, by quarters, January 1990-March 1993

* * * * * * *

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 4
CDIW fittings: Weighted-average net delivered prices of products 3 and 4 sold to distributors, by quarters, January 1990-March 1993

* * * * * * *

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Price trends for U.S.-produced CDIW fittings

During January 1990-March 1993, weighted-average delivered prices for U.S. products 1 to 4 increased overall by ***, ***, ***, and *** percent, respectively.[88] Prices for product 1 increased consistently during the period. Product 2 prices increased slightly during 1990-91, then, increased significantly in the first quarter of 1992, and remained at this higher level during the remainder of the period. Prices for product 3 fluctuated upward during 1990-91 and the first two quarters of 1992, dipped sharply during the

[88] Joel Blair, utility sales manager of Tyler, reported that Tyler is currently trying to maintain its pricing structure when possible. Hearing transcript, p. 21.

third quarter of 1992, then increased even more sharply in the fourth quarter of 1992, and remained at this level during the rest of the period. Product 4 prices did not show a consistent trend during the period, fluctuating upward to their highest point in the fourth quarter of 1991, falling to their lowest point in the third quarter of 1992, then increasing during the rest of the period. Prices at the end of the period were above the prices at the beginning of the period.

Price trends for imported Chinese CDIW fittings

During January 1990-March 1993, prices for imported Chinese products 1 to 3 fluctuated, increasing overall by ***, ***, and *** percent, respectively. Importers of the Chinese subject product were not asked to provide price data for product 4 since it is not included in Commerce's scope. Prices for imported Chinese product 1 fluctuated widely, showing little evidence of upward or downward trends. Chinese product 2 prices fluctuated upward to their highest point in the first quarter of 1992, and then fluctuated downward during the rest of the period, increasing overall. Prices for imported Chinese product 3 fluctuated upward to their highest point in the first quarter of 1991, and then fluctuated slightly downward during the rest of the period, increasing overall.

Price trends for U.S.-produced accessory kits and ductile iron glands

During January 1990-March 1993, prices for U.S.-produced 6- and 8-inch CDIW accessory kits fell by *** and *** percent, respectively (table 31 and figure 5). During the same period, prices for U.S.-produced 6- and 8-inch standard ductile iron glands fluctuated downward, falling by *** and *** percent, respectively (tables 32 and 33 and figure 6).

Price trends for imported Chinese ductile iron glands

Prices for imported Chinese 6- and 8-inch CDIW glands moved upward during the period, increasing by *** and *** percent, respectively.

Price trends for U.S.-produced FBDIW and gray iron fittings

Prices for products 5 and 6 showed little evidence of either upward or downward trends (table 34). Product 5 prices increased to their highest point in the third quarter of 1990, returned to their original levels the following quarter, and remained at approximately those levels during the rest of the period. Product 6 prices fluctuated widely during the period for which data were collected, not showing clear upward or downward trends. Prices for products 7 and 8 also fluctuated widely, and not showing either a clear upward or downward trend during the period for which data were collected (table 35).

Table 31
CDIW accessory kits: Weighted-average delivered prices of 6- and 8-inch CDIW accessory kits sold separately to distributors, by quarters, January 1990-March 1993

Period	6-inch CDIW accessory kit		8-inch CDIW accessory kit	
	Price $/unit	Quantity Units	Price $/unit	Quantity Units
* * * * * * *				

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 5
CDIW accessory kits: Weighted-average net delivered prices of U.S.-produced 6- and 8-inch CDIW accessory kits sold to distributors, by quarters, January 1990-March 1993

* * * * * * *

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 32
Ductile iron glands: Weighted-average delivered prices of 6-inch standard ductile iron glands sold separately to distributors, by quarters, January 1990-March 1993

Period	United States		China	
	Price $/unit	Quantity Units	Price $/unit	Quantity Units
* * * * * * *				

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 33
Ductile iron glands: Weighted-average delivered prices of 8-inch standard ductile iron glands sold separately to distributors, by quarters, January 1990-March 1993

Period	United States		China	
	Price $/unit	Quantity Units	Price $/unit	Quantity Units
* * * * * * *				

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Figure 6
CDIW glands: Weighted-average net delivered prices of 6- and 8-inch CDIW glands sold to distributors, by quarters, January 1990-March 1993

* * * * * * *

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 34
FBDIW fittings and accessories thereof: Weighted-average net delivered prices of U.S. products 5 and 6 sold to distributors, by quarters, January 1990-March 1993

	Product 5			Product 6		
Period	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units
	* * * * * * *					

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table 35
Gray iron waterworks fittings and accessories thereof: Weighted-average net delivered prices of U.S. products 7 and 8 sold to distributors, by quarters, January 1990-March 1993

	Product 7			Product 8		
Period	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units	Fittings Price $/unit	Accessories Price $/unit	Fittings Quantity Units
	* * * * * * *					

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Chinese CDIW fittings price comparisons

The price data for the largest quarterly sales of CDIW fittings from China during January 1990-March 1993 allowed 39 direct delivered price comparisons with U.S. products 1 to 3. The imported Chinese products were priced below the domestic product in 33 of the 39 comparisons (table 36). Prices for Chinese product 1 were below prices for U.S. product 1 in 12 of the 13 available quarters by margins ranging from 3.2 percent to 22.4 percent and were above in 1 quarter by a margin of 9.1 percent. The margins of underselling for product 1 tended to increase over the period. Prices for Chinese product 2 were below prices for U.S. product 2 in 9 quarters by margins ranging from 1.8 to 13.5

Table 36
CDIW fittings: Chinese margins of underselling/(overselling), by products and by quarters, January 1990-March 1993

(In percent)

Period	Product 1	Product 2	Product 3
1990:			
January-March	8.6	13.5	15.4
April-June	9.6	9.3	16.8
July-September	7.6	3.9	7.6
October-December	(9.1)	8.2	10.4
1991:			
January-March	3.2	(2.4)	(7.0)
April-June	15.4	3.2	1.2
July-September	8.4	(0.1)	1.1
October-December	7.7	(7.6)	10.6
1992:			
January-March	15.4	(2.9)	20.7
April-June	18.0	3.9	19.9
July-September	20.7	1.8	12.5
October-December	20.7	10.9	29.8
1993:			
January-March	22.4	5.9	25.7

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

percent and were above in 4 quarters by margins ranging from 0.1 to 7.6 percent. Prices for Chinese product 3 were below prices for U.S. product 3 in 12 of the 13 available quarters by margins ranging from 1.1 to 29.8 percent and were above in 1 quarter by a margin of 7.0 percent. Margins of underselling for product 3 increased after the third quarter of 1991.

Chinese CDIW glands price comparisons

Price data for imported Chinese CDIW glands sold separately to distributors also allowed 26 direct delivered price comparisons with U.S.-produced CDIW glands. The imported Chinese products were priced below the domestic products in 24 of the 26 comparisons (table 37). Prices for Chinese 6-inch CDIW glands were below prices for the corresponding U.S. product in all 13 available quarters by margins ranging from 3.0 to 40.2 percent. Prices for Chinese 8-inch CDIW glands were below the prices for the corresponding U.S. product in 11 of the 13 available quarters by margins ranging from 3.1 to 39.6 percent and were above in the remaining 2 quarters by margins ranging from 4.4 to 5.7 percent. The margins of underselling for both the 6- and 8-inch CDIW glands narrowed significantly over the period as prices for the U.S. products fell approximately to the level of prices of the Chinese products.

Table 37
CDIW glands: Chinese margins of underselling/(overselling), by products and by quarters, January 1990-March 1993

(In percent)

Period	6-inch CDIW glands	8-inch CDIW glands
1990:		
January-March.....	40.2	39.6
April-June.....	21.7	29.4
July-September....	33.5	32.2
October-December..	32.8	27.3
1991:		
January-March.....	33.7	34.8
April-June.....	32.2	29.0
July-September....	35.7	31.6
October-December..	11.7	8.8
1992:		
January-March.....	19.7	14.0
April-June.....	8.9	3.1
July-September....	3.5	(5.7)
October-December..	3.0	(4.4)
1993:		
January-March.....	26.3	16.0

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

U.S.-produced product price comparisons

Price comparisons of U.S.-produced 8- and 18-inch diameter CDIW fittings, 6-inch CDIW and 6-inch FBDIW fittings, and 6-inch CDIW and 6-inch gray iron waterworks fittings are shown in table 38.

For most of the quarters during January 1990-March 1993, the U.S.-produced 18-inch CDIW fittings were at least six times as expensive as the U.S.-produced 8-inch CDIW fittings. Prices for the 8-inch fittings ranged from $51.84 to $60.66 per unit, whereas prices for the 18-inch fittings ranged from $288.33 to $389.66 per unit.

Prices for both the 6-inch FBDIW and the 6-inch gray iron waterworks fittings were consistently higher than prices for the 6-inch CDIW fittings during January 1990-March 1993. Prices for the CDIW fittings ranged from $28.28 to $34.63 per unit, whereas prices for the FBDIW fittings ranged from $49.62 to $72.23 per unit and prices for the gray iron waterworks fittings ranged from $42.06 to $85.61 per unit. The FBDIW and gray iron waterworks fittings were priced above the corresponding CDIW fittings in all quarters by margins ranging from 45.6 to 154.6 percent and from 42.3 to 197.7 percent, respectively.

Table 38
U.S.-produced iron waterworks fittings: Percentages by which various U.S.-produced iron waterworks fittings are priced above comparable U.S.-produced CDIW fittings not exceeding 16 inches an diameter, by quarters, January 1990-March 1993

(In percent)

Period	18-inch CDIW/ 8-inch CDIW comparison	6-inch FBDIW/ 6-inch CDIW comparison	6-inch gray iron/ 6-inch CDIW comparison
1990:			
January-March.....	561.4	83.6	115.7
April-June.....	518.2	128.6	114.2
July-September....	561.4	154.6	197.7
October-December..	531.2	77.7	42.3
1991:			
January-March.....	548.9	72.1	75.3
April-June.....	575.9	70.9	137.1
July-September....	577.0	68.7	182.0
October-December..	639.5	55.7	158.4
1992:			
January-March.....	457.6	61.1	53.4
April-June.....	427.7	60.3	57.1
July-September....	381.7	61.0	109.1
October-December..	436.5	57.9	48.8
1993:			
January-March.....	512.6	45.6	83.0

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Purchaser Responses

The Commission sent questionnaires to 75 firms believed to be purchasers of iron waterworks fittings and accessories thereof. Responses were received from 29 firms, of which 21 provided usable data.[89] Information obtained from these purchaser questionnaires is summarized below.

All of the responding purchasers characterized themselves as resellers who buy from U.S. producers and/or importers and resell the waterworks fittings and accessories thereof to municipalities or waterworks contractors. All of these purchasers reported that they knew whether the fittings and accessories that they purchased were U.S.-produced or imported, but nearly half reported that they did not always know the manufacturer. Most firms reported that they seldom or very infrequently change suppliers; however,

[89] Eight firms reported that they did not purchase iron waterworks during the period January 1, 1990-March 31, 1993. The remaining firms did not respond to the Commission's questionnaire.

several firms did report that they had changed suppliers in the past 3 years.[90] Reasons given for changing suppliers include product availability, service, quality, and price. Purchasers generally contact 1 to 3 suppliers before making a purchase.[91] Twelve of the 20 responding purchasers reported that they had bought both U.S.-produced and imported Chinese iron waterworks fittings and accessories thereof during the last 3 years.

Purchasers were asked to compare Chinese suppliers' marketing efforts with those of the domestic producers of iron waterworks fittings and accessories thereof. Several purchasers reported that the domestic producers offered greater availability and reliability of supply, whereas the Chinese suppliers offered better sales terms and pricing. Purchasers' opinions on the service of domestic and Chinese suppliers were mixed.

Purchasers were also asked to rank, in order of importance, the major factors considered in deciding from whom to purchase iron waterworks fittings and accessories thereof.[92] Quality was mentioned most frequently as the number one factor considered, with eight firms ranking it number one; price and availability were each ranked as the number one consideration by seven firms.[93]

The Commission asked purchasers to compare domestic and Chinese iron waterworks fittings and accessories thereof with respect to nine different factors.[94] A majority of the responding purchasers reported that the domestic product was superior to the Chinese product with regard to availability, product consistency, reliability of supply, and technical service. Most purchasers reported that domestic and Chinese quality is the same, and prices for the Chinese product are lower.[95] Answers for the other categories were mixed.

Purchasers also discussed the substitutability of CDIW, FBDIW, and gray iron waterworks fittings. Nearly all the responding purchasers reported that it is not practically or economically feasible to substitute FBDIW or gray iron waterworks fittings for CDIW fittings. The preferences of the contractors or municipalities that use waterworks fittings dictate which waterworks fittings a distributor will purchase. When CDIW fittings are

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[90] *** reported shifting purchases to a secondary supplier rather than changing suppliers altogether.

[91] Five of the responding purchasers reported that they generally contact only one supplier before making a purchase.

[92] Several firms ranked two factors as the number one consideration in a purchasing decision, both factors being equally important.

[93] Availability was ranked second by seven firms and third by two firms. Quality was ranked second by four firms and third by two firms. Price was ranked second by three firms and third by three firms.

[94] These factors are availability, delivery time, delivery terms, packaging, price, product consistency, product quality, reliability of supply, and technical support.

[95] All 17 responding purchasers reported that imported iron waterworks fittings and accessories thereof from China were available at a lower delivered price than the domestic product during 1992.

accepted by the end user, they are typically preferred to FBDIW or gray iron fittings because of their lighter weight, shorter laying length, and lower cost. Some municipalities in such areas as earthquake zones or zones with adverse soil conditions still specify FBDIW fittings because of their thicker walls. Several firms have reported that they have shifted their purchases from FBDIW and gray iron waterworks fittings to CDIW fittings as CDIW fittings have become more widely accepted in the waterworks industry.

Several purchasers reported that PVC fittings may be substituted for iron waterworks fittings in some applications, but these fittings are not widely accepted. Nearly all of the responding purchasers reported that, during the last 3 years, relative changes in the prices of iron waterworks fittings have not influenced their purchases of alternative products.

Lost Sales and Lost Revenues

Domestic producers reported eight instances of lost sales of CDIW fittings valued at $91,792 and totaling 77,652 pounds.[96] They also alleged four instances of lost revenues valued at $2,343 on sales of 72,265 pounds. The Commission staff contacted the purchasers of CDIW fittings named in six of these alleged lost sales and those named in three of the instances of alleged lost revenues.

*** reported two sales of CDIW fittings, on *** and ***, to *** of ***, allegedly lost to a supplier of Chinese-produced fittings. *** alleged that its price quotes of $*** and $***, respectively, were rejected by *** and that the sales were awarded to a supplier of the Chinese product that quoted prices of $*** and $***, respectively.

*** stated that he had bought Chinese-produced CDIW fittings during the time period specified by ***, but he was not able to recall the total values involved. He stated, however, that the values reported by *** seemed unusually high considering the weight of the fittings involved in the sales.

*** stated that he buys Chinese-produced CDIW fittings because they are less expensive than the domestic product and are of comparable quality. He also stated that approximately 50 percent of the CDIW fittings that he sells are Chinese-produced, but that this percentage is unlikely to increase because some of his customers are municipalities and military bases that have strict "Buy American" policies.

*** also reported two sales of CDIW fittings to *** of ***, allegedly lost to a supplier of Chinese-produced fittings. *** alleged that, on ***, both of its price quotes of $*** and $*** were rejected, and the sales were

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[96] Joel Blair of Tyler maintained that in the most important market, the lost sale occurs when the municipal authority awards the bid to the distributor supplying CDIW fittings from China. Hearing transcript, p. 23. *** reported *** instances of sales lost by *** to imports from China. The quantities and values of these lost sales have not been included in the totals reported above.

awarded to a supplier of the Chinese product that quoted prices of $*** and $***, respectively, for the two sales.

*** stated that, although he could not verify the specific quantities and values alleged by ***, 80 percent of the CDIW fittings that he purchases are Chinese-produced. *** said he buys the imported product because it is cheaper and his competitors buy Chinese-produced CDIW fittings. He also stated that the imported and domestic products are comparable in quality. *** reported that he has told several of the domestic producers that he would prefer to buy from them if they would match the price of the imports, but they have not yet done so.

*** alleged that, in ***, it lowered its prices to *** of ***, to avoid losing sales because of competition from Chinese-produced CDIW fittings. *** reported that these price reductions resulted in a total revenue loss of $***.

*** stated that, although he had bought CDIW fittings from ***, ***, and *** throughout 1991 and 1992, he could not recall the specific instances reported by *** because they were relatively small shipments. *** stated that he bought the Chinese-produced fittings not only because they were cheaper than the domestic product but also because *** provided better service. As an example, he said that *** would try to find other waterworks houses in the area that needed fittings so that *** did not have to pay freight on small orders. He reported that this type of service was very important to *** because it had ***, and it was often very inconvenient to wait until truckload quantities were needed at a single location in order to get freight-free delivery.

*** also reported a sale of CDIW fittings to *** of ***, allegedly lost to a supplier of Chinese-produced fittings. *** alleged that, on ***, its price quote of $*** was rejected, and the sale was awarded to a supplier of the Chinese product that quoted a price of $*** for the sale.

***, a purchasing agent for ***, could not identify the specific allegation. *** reported that, in 1993, *** bought roughly 60 percent of its CDIW fittings from foreign suppliers. *** estimated that approximately half of the foreign fittings were of Chinese origin, but stated that the quality, availability, service, and lead times of the U.S.-produced and imported Chinese fittings are the same, differing only by price and country of origin. *** estimated that the imported Chinese fittings are priced 20 percent below comparable domestic fittings. *** buys domestic fittings to supply purchasers that have "Buy American" requirements. *** would prefer to buy domestic fittings, but cannot afford to if it must compete with foreign fittings for a job.

*** alleged that its price quote of $*** for *** pounds of CDIW fittings was rejected by *** of *** in 1992 and that the sale was awarded to a supplier of Chinese-produced CDIW fittings that bid approximately $***.

***, general manager of ***, stated that he began buying Chinese-produced CDIW fittings from *** in *** and that the quantity and value reported by *** are approximately correct. *** stated that he buys the Chinese product because it is less expensive and comparable in quality to the

domestic product and because his competitors are also buying from ***. He said that, prior to 1992, he bought only U.S.-made fittings and often paid a premium for them not only because some of his customers insisted on fittings made in the United States but also because he wanted to support domestic industries. He stated that he recently began buying from *** because the price differential became too great for him to ignore and still remain competitive.

Exchange Rates

The value of the currency of the People's Republic of China is determined by the Government of China rather than the free market. Therefore, an accurate description of movements in the Chinese exchange rate cannot be presented.

APPENDIX A

THE COMMISSION'S AND COMMERCE'S FEDERAL REGISTER NOTICES

[Investigation No. 731-TA-621 (Final)]

Certain Compact Ductile Iron Waterworks Fittings and Accessories Thereof From the People's Republic of China

AGENCY: United States International Trade Commission.

ACTION: Institution and scheduling of a final antidumping investigation.

SUMMARY: The Commission hereby give notice of the institution of final antidumping investigation No. 731-TA-621 (Final) under section 735(b) of the Tariff Act of 1930 (19 U.S.C. 1673d(b)) (the Act) to determine whether an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from the People's Republic of China of certain compact ductile iron waterworks fittings and accessories thereof,[1] provided for in subheadings 7307.19.90, 7318.15.20, 7318.16.00, and 7325.99.10 of the Harmonized Tariff Schedule of the United States.

For further information concerning the conduct of this investigation, hearing procedures, and rules of general application, consult the Commission's Rules of Practice and Procedure, part 201, subparts A through E (19 CFR part 201), and part 207, subparts A and C (19 CFR part 207).

EFFECTIVE DATE: February 9, 1993.

FOR FURTHER INFORMATION CONTACT: Woodley Timberlake (202-205-3188), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

SUPPLEMENTARY INFORMATION:

Background

This investigation is being instituted as a result of an affirmative preliminary determination by the Department of Commerce that imports of certain compact ductile iron waterworks fittings and accessories thereof from the People's Republic of China are being sold in the United States at less than fair value within the meaning of section 733 of the Act (19 U.S.C. 1673b). The investigation was requested in a petition filed on July 8, 1992, on behalf of the U.S. Waterworks Fittings Producers Council, which is comprised of the following firms: Clow Water Systems Company (Coshocton, OH); Tyler Pipe

[1] The products covered by this investigation are (1) certain compact ductile iron waterworks (CDIW) fittings of 3 to 16 inches nominal diameter regardless of shape, including bends, tees, crosses, wyes, reducers, adapters, and other shapes, whether or not cement lined, and whether or not covered with bitumen or similar substance, conforming to American Water Works Association/American National Standards Institute (AWWA/ANSI) specifications C153/A21.53, and rated for water working pressure of 350 PSI; and (2) certain CDIW fittings accessories which typically consist of a standard ductile iron gland, a styrene butadiene rubber (SBR) gasket, the requisite number of Cor-Ten steel or ductile iron T-head bolts, and hexagonal nuts, for fittings in sizes 3 to 16 inches, conforming to AWWA/ANSI specification C111/A21.11, and rated for water working pressure of 350 PSI. Gaskets, bolts and nuts are only included if they are imported as an accessory pack with a gland. However, glands imported separately are included in the scope of the investigation. Compact ductile iron waterworks fittings with nominal diameters greater than 16 inches and accessories used with such fittings, nonmalleable cast iron or gray iron fittings, and full-bodies ductile fittings all are excluded from the scope of this investigation.

Industries, Inc. (Tyler, TX); and Union Foundry Company (Anniston, AL).

Participation in the Investigation and Public Service List

Persons wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in section 201.11 of the Commission's rules, not later than twenty-one (21) days after publication of this notice in the Federal Register. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance.

Limited Disclosure of Business Proprietary Information (BPI) Under an Administrative Protective Order (APO) and BPI Service List

Pursuant to section 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in this final investigation available to authorized applicants under the APO issued in the investigation, provided that the application is made not later than twenty-one (21) days after the publication of this notice in the Federal Register. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Staff Report

The prehearing staff report in this investigation will be placed in the nonpublic record on June 24, 1993, and a public version will be issued thereafter pursuant to section 207.21 of the Commission's rules.

Hearing

The Commission will hold a hearing in connection with this investigation beginning at 9:30 a.m. on July 8, 1993, at the U.S. International Trade Commission Building. Requests to appear at the hearing should be filed in writing with the Secretary to the Commission on or before June 30, 1993. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the hearing. All parties and nonparties desiring to appear at the hearing and make oral presentations should attend a prehearing conference to be held at 9:30 a.m. on July 2, 1993, at the U.S. International Trade Commission Building. Oral testimony and written materials to be submitted at the public hearing are governed by sections 201.6(b)(2), 201.13(f), and 207.23(b) of the Commission's rules. Parties are strongly encouraged to submit as early in the investigation as possible any requests to present a portion of their hearing testimony *in camera*.

Written Submissions

Each party is encouraged to submit a prehearing brief to the Commission. Prehearing briefs must conform with the provisions of § 207.22 of the Commission's rules; the deadline for filing is July 1, 1993. Parties may also file written testimony in connection with their presentation at the hearing, as provided in § 207.23(b) of the Commission's rules, and posthearing briefs, which must conform with the provisions of § 207.24 of the Commission's rules. The deadline for filing posthearing briefs is July 16, 1993; witness testimony must be filed no later than three (3) days before the hearing. In addition, any person who has not entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the investigation on or before July 16, 1993. All written submissions must conform with the provisions of § 201.8 of the Commission's rules; any submissions that contain BPI must also conform with the requirements of §§ 201.6, 207.3, and 207.7 of the Commission's rules.

In accordance with §§ 201.16(c) and 207.3 of the rules, each document filed by a party to the investigation must be served on all other parties to the investigation (as identified by either the public or BPI service list), and a certificate of service must be timely filed. The Secretary will not accept a document for filing without a certificate of service.

Authority: This investigation is being conducted under authority of the Tariff Act of 1930, title VII. This notice is published pursuant to § 207.20 of the Commission's rules.

Issued: March 5, 1993.

By order of the Commission.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93-5466 Filed 3-9-93; 8:45 am]

BILLING CODE 7020-02-M

INTERNATIONAL TRADE ADMINISTRATION

[A-570-820]

Final Determination of Sales at Less Than Fair Value: Certain Compact Ductile Iron Waterworks Fittings and Accessories Thereof From the People's Republic of China

AGENCY: Import Administration, International Trade Administration, Department of Commerce.

EFFECTIVE DATE: July 14, 1993.

FOR FURTHER INFORMATION CONTACT: Kate Johnson, Office of Antidumping Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Washington, DC, 20230; telephone: (202) 482-4929.

Final Determination

The Department of Commerce (the Department) determines that certain compact ductile iron waterworks (CDIW) fittings and accessories thereof from the People's Republic of China (PRC) are being, or are likely to be, sold in the United States at less than fair value, as provided in section 735 of the Tariff Act of 1930, as amended (the Act) and that critical circumstances exist. The estimated margin is shown in the "Suspension of Liquidation" section of this notice.

Scope of Investigation

The products covered by this investigation are (1) certain compact ductile iron waterworks fittings of 3 to 16 inches nominal diameter regardless of shape, including bends, tees, crosses, wyes, reducers, adapters, and other shapes, whether or not cement line, and whether or not covered with bitumen or similar substance, conforming to AWWA/ANSI specification C153/A21.53, and rated for water working pressure of 350 PSI; and (2) certain CDIW fittings accessories which typically consist of a standard ductile iron gland, a styrene butadiene rubber (SBR) gasket, the requisite number of Cor-Ten steel or ductile iron T-head bolts, and hexagonal nuts, for fittings in sizes 3 to 16 inches, conforming to American Water Works Association/American National Standards Institute (AWWA/ANSI) specification C111/A21.11, and rated for water working pressure of 350 PSI. Gaskets, bolts and nuts are only included if they are imported as an accessory pack with a gland. However, glands imported separately are included in the scope of investigation.

The types of CDIW fittings covered by this investigation are compact ductile iron mechanical joint waterworks fittings and compact ductile iron push-on joint waterworks fittings, both of which are used for the same applications. CDIW fittings are used to join water main pressure pipes, valves, or hydrants in straight lines, and change, divert, divide, or direct the flow of raw and/or treated water in piping systems. CDIW fittings attach to the pipe, valve, or hydrant at a joint and are used principally for municipal water distribution systems.

CDIW fittings accessories are used to join mechanical joint CDIW fittings to pipes. The accessories ensure the completeness of the seal between the CDIW fitting and pipe. Mechanical joint fittings must be used with CDIW accessories. Push-on fittings do not require CDIW accessories other than a SBR gasket.

CDIW fittings with nominal diameters greater than 16 inches, and the accessories used with CDIW fittings with nominal diameters greater than 16 inches, are specifically excluded from the scope of the investigation. Nonmalleable cast iron fittings (also called gray iron fittings) and full-bodied ductile fittings are also specifically excluded from the scope of this investigation. Nonmalleable cast iron fittings have little ductility and are generally rated only 150 to 250 PSI. Full-bodied ductile fittings have a longer body design than a compact fitting because in the compact design the straight section of the body is omitted to provide a more compact and less heavy fitting without reducing strength or flow characteristics. In addition, the full-bodied ductile fittings are thicker walled than the compact fittings. Full-bodied fittings are made of either gray iron or ductile iron, in sizes of 3 to 48 inches, conform to AWWA/ANSI specification C110/C21.10, and are rated to a maximum of only 250 PSI. In addition, compact ductile iron flanged fittings are excluded from the scope of this investigation, as they have significantly different characteristics and uses than CDIW fittings.

CDIW fittings are classifiable under subheading 7307.19.30.00, of the Harmonized Tariff Schedule of the United States (HTSUS). Standard ductile iron glands are classifiable under HTSUS subheading 7325.99.10.00, styrene butadiene rubber gaskets are classifiable under HTSUS subheading 4016.93.00.90, T-Head bolts of steel or ductile iron are classifiable under HTSUS subheading 7318.15.20.90, and hexagonal nuts are classifiable under HTSUS subheading 7318.16.00.00. Although the HTSUS subheadings are provided for convenience and customs purposes, our written description of the scope of this investigation is dispositive.

Case History

Since our affirmative preliminary determination of critical circumstances, on April 28, 1993 (58 FR 26960, May 6, 1993), the following events have occurred.

We verified the responses of China National Metal Products Import and Export Corporation (CMP), Song Zhuang Foundry, Bin He Foundry, and Sigma Corporation in the United States and the PRC from April 6, 1993 through April 8, 1993 and April 23, 1993 through May 3, 1993, respectively. Petitioners and respondent filed case briefs on June 3, 1993 and rebuttal briefs on June 8, 1993.

A public hearing was held on June 10, 1993.

Separate Rates

As noted in the *Final Determination of Sales at Less than Fair Value: Sparklers from the People's Republic of China* (56 FR 20588, May 6, 1991) (*Sparklers*), we have followed a policy of issuing separate rates in non-market economy investigations where respondents can demonstrate both a de jure and de facto absence of central government control with respect to exports. Evidence supporting, though not requiring, a finding of de jure absence of central control would include: (1) An absence of restrictive stipulations associated with an individual exporter's business and export licenses; and (2) any legislative enactments devolving central control of export trading companies. Evidence supporting a finding of de facto absence of central control with respect to exports would include: (1) Whether each exporter sets its own export prices independently of the government and other exporters; and (2) whether each exporter can keep the proceeds from its sales.

In previous investigations and administrative reviews in which the separate rates test has been applied, the Department has not distinguished exporters on the basis of ownership. That is, state ownership did not preclude an exporter from receiving a separate rate. We now have reconsidered this policy and have determined that it is not appropriate to assign separate rates to state-owned enterprises. We have determined that an entity cannot be completely free of central government control with respect to exports if it is owned by the central government, regardless of whether the indicia set forth in *Sparklers* have been met. State ownership provides the central government the opportunity to manipulate prices whether or not it has taken advantage of that opportunity during the period of investigation. Thus, in all future investigations and administrative reviews, the Department will not consider requests for separate rates from state-owned enterprises.

In the instant investigation, CMP is 100 percent owned by CMMC, a state-owned trading company, which is 100 percent owned by the Ministry of Foreign Trade and Economic Cooperation. Accordingly, given that the PRC is a non-market economy (NME), that the subject merchandise is not produced by a market-oriented industry, and CMP is a wholly-owned subsidiary of CMMC, it is not entitled to a separate rate. Furthermore, petitioners' and respondent's additional arguments relating to the separate rates issue are now rendered moot due to the Department's reconsideration of the separate rates policy.

Best Information Available

Since respondent CMP is ineligible for a separate rate due to its ownership status, and we did not receive an adequate consolidated questionnaire response from the PRC government on behalf of all PRC producers and exporters, we are using best information available (BIA) to calculate the margin for all exporters from the PRC. As BIA, we are using the information supplied by the petitioners which was accepted for purposes of initiation.

Class or Kind of Merchandise

In its preliminary determination, the Department determined that fittings, glands, and accessory packs imported with glands constituted one class or kind of merchandise. At that time, the Department agreed to collect further information from petitioners and respondent in order to evaluate respondent's request that glands be classified as a separate class or kind of merchandise. Using respondent's January 27, 1993 submission, comments submitted prior to verification and respondent's and petitioners' case briefs, we conducted a *Diversified Products* analysis to determine if respondent's request for a finding of two separate classes or kinds of merchandise is valid. Based on our analysis the Department finds that CDIW fittings and glands constitute one class or kind of merchandise.

Physical Characteristics

Because fittings and glands are both made of ductile iron, they consequently are produced by similar manufacturing processes in similar production facilities. The Department presumes that a product which possesses the physical characteristics described in the scope of the investigation will be covered. Although there may be slight differences in the physical characteristics of fittings and glands, the differences claimed by respondent are not great enough to place the two products into different classes or kinds of merchandise. Mere lack of resemblance is not determinative of class or kind.

Ultimate Use

Customers purchase fittings and glands with the same intended use-to assemble these products, or use them in conjunction with a pre-existing waterworks system and, thereby, change the direction of water flow and/or carry water through the system. Customers who purchase mechanical joint fittings are aware of the need to secure these fittings with a gland or similar retaining product.

Expectations of the Ultimate Purchasers

The Department notes that when customers purchase mechanical joint fittings, they fully expect to use the requisite number of glands to hold the fittings in place. Although interchangeability may be an appropriate factor in cases involving variations of the same product, *i.e.*, antifriction bearings, it is not necessarily so in a case involving products which comprise a system. CDIW fittings and glands are integral parts of waterworks systems, and when taken as a whole, interchangeability is not a requirement among each product within this system in order to classify the products of this system as one class or kind of merchandise.

Channels of Trade

The Department notes that distributors sell not only fittings and glands but also all other waterworks products that are needed in a municipal water system. Respondent's December 16, 1992 Class or Kind Response, Exhibit 4, outlines identical channels of distribution for both fittings and glands for use in the waterworks industry. Respondent's argument that glands sold to the gas industry flow through a different channel of trade is not a compelling argument for determining that glands constitute a separate class or kind of merchandise. The fact that glands flow through an additional channel of trade does not negate the fact that the channels of trade are identical with regard to the waterworks industry.

Fair Value Comparisons

To determine whether sales of CDIW fittings and accessories thereof from the PRC to the United States were made at less than fair value, we compared the United States price (USP) to the foreign market value (FMV), as specified in the "United States Price" and "Foreign Market Value" sections of this notice.

United States Price

We based USP on IM-146 import statistics from January through April 1992, of subject merchandise, as contained in the petition. No adjustments were made to petitioners' calculation using the IM-146 statistics.

Foreign Market Value

We based FMV on the methodology contained in the petition. Petitioners contend that the FMV of PRC-produced

imports subject to this investigation must be determined in accordance with section 773(c) of the Act, which concerns NME countries. The PRC is presumed to be an NME within the meaning of section 771(18)(c) of the Act, and the Department has treated it as such in previous investigations (*see, Final Determination of Sales at Less Than Fair Value: Sulfanilic Acid from the PRC*, 57 FR 29705 (July 6, 1992)). In accordance with section 773(c) of the Act, FMV in NME cases is based on NME producers' factors of production (valued in a market economy country).

Petitioners calculated FMV on the basis of the valuation of the factors of production. In valuing the factors of production, petitioners used India as a surrogate country.

Petitioners used one of the petitioner's factors for raw material inputs, energy, and labor for constructed value (CV). The raw material, energy and labor factors for producing certain CDIW fittings and accessories thereof are based on one petitioner's actual experience through December 1991. Overhead expenses are expressed as a percentage of the cost of manufacture as experienced by one of the petitioners.

In accordance with the hierarchy for preferred input values as set forth in the notice of *Final Determination of Sales at Less Than Fair Value: Certain Carbon Steel Butt-Weld Pipe Fittings From the People's Republic of China (PRC)*, 57 FR 21058 (May 18, 1992) (Comment 4), petitioners first used publicly available published information (PI) from India to value the factors of production before resorting to unclassified information contained in U.S. government cables or to their own costs of production. Petitioners based the value of raw material costs for fluorite, limestone, silicon, and copper scrap on PI from India. Petitioners based the value of raw material costs for pig iron, coke, and ferrosilicon on cable information from the U.S. consulate in India.

Petitioners based raw material costs for ferrosilicon magnesium, cement lining, and bituminous coating on one of the petitioner's costs as of December 1991. Petitioners based the natural gas value on PI from India, labor and electricity values on cable information from the U.S. consulate in India, and the oxygen value on one of petitioner's costs of production.

Pursuant to section 773(c) of the Act, petitioners added to CV the statutory minima of ten percent for general expenses and eight percent for profit, and a percentage of the cost of manufacture for packing expenses.

Critical Circumstances

On March 31, 1993, petitioners alleged that "critical circumstances" exist with respect to imports of the subject merchandise from the PRC. Section 733(e)(1) of the Act provides that the Department will determine whether there is a reasonable basis to believe or suspect that:

(A)(i) There is a history of dumping in the United States or elsewhere of the class or kind of merchandise which is the subject of the investigation, or

(ii) The person by whom, or for whose account, the merchandise was imported knew or should have known that the exporter was selling the merchandise which is the subject of the investigation at less than its fair value, and,

(B) There have been massive imports of the class or kind of merchandise which is the subject of the investigation over a relatively short period.

Regarding requisite (A)(i) above, we normally consider whether there has been an antidumping order in the United States or elsewhere on the subject merchandise in determining whether there is a history of dumping. Regarding requisite (A)(ii) above, we normally consider margins of 25 percent or more for purchase price comparisons and 15 percent or more for exporter's sales price comparisons as sufficient to impute knowledge of dumping. Since the final estimated dumping margin for all exporters of CDIW fittings and accessories from the PRC is in excess of 25 percent, we can impute knowledge of dumping under section 733(e)(1)(A)(ii) of the Act.

For purposes of determining whether there have been massive imports over a relatively short period of time, the Department did not consider the company-specific data submitted by respondent on April 16, 1993, because it has not demonstrated that it qualifies for a separate rate. The Department lacked monthly, country-wide shipment data, due to the PRC Government's failure to provide an adequate consolidated questionnaire response on behalf of all PRC producers and exporters. As a result, the Department was forced to assume, as BIA, that there have been massive imports over a relatively short period of time. Accordingly, we find that critical circumstances do exist in this investigation.

Verification

As provided in section 776(b) of the Act, we verified information provided by CMP by using standard verification procedures, including the examination of relevant sales and financial records, and selection of original source documentation containing relevant information.

Interested Party Comments

Comment 1

Petitioners argue that the Department's policy of calculating separate rates for individual exporters in PRC investigations is bad policy because it is inconsistent with the determination that the subject merchandise is not produced by a market-oriented industry and with the Department's separate rate policy in market economy investigations. Petitioners also maintain that it is not necessary for the Department to consider the de facto absence of central government control where respondents have failed to establish a de jure absence of central government control and that furthermore the mere existence of legislative enactments does not establish an absence of de jure control.

Petitioners also claim that the Department's precedent in other NME investigations does not require the Department to calculate a separate rate for CMP in this investigation. Petitioners believe that the determinations cited by respondent may be distinguished and that the Department's separate rate policy is evolving. Finally, petitioners argue that even if the Department chooses to disregard petitioners' arguments concerning the problems with its separate rate policy in MNE investigations, based on the record evidence, CMP does not qualify for a separate rate because it has not conclusively demonstrated both a de jure and de facto absence of central government control. Accordingly, CMP must be assigned a BIA rate, according to petitioners.

Respondent argues that the Department should calculate separate rates for CMP's sales of fittings and glands on a factory specific basis because it fulfills all relevant de facto and de jure criteria of the test established in the Sparklers case. Respondent claims that petitioners disregard the Department's established standard and that the relationship between CMMC and CMP is irrelevant. Respondent also states that it is not related to any other exporters or producers of the subject merchandise. Moreover, respondent maintains that all prior Department determinations support its request for separate rates and that separate rates would fulfill the policy objective identified by petitioners. Finally, respondent contends that the preliminary

determination in this case applied the wrong legal standard to unsupported factual conclusions.

DOC Response

Please see "Separate Rates" section above.

Comment 2

Petitioners state that if the Department determines that CMP is entitled to a separate rate, certain adjustments must be made to FMV. First, petitioners believe that the Department should adjust the factor for direct materials to account for the delay between production and recording of sales. Petitioners further believe that the Department should correct for an understatement of the factor for electricity at the Song Zhuang Foundry. Finally, petitioners argue that the Department should accept its factory overhead information.

Respondent argues that the Department should not use a lag period to calculate Bin He's material inputs because the verifiers' formula is speculative and using the lag is inconsistent with the Department's repudiation of lag periods in recent cases. Respondent also argues that the Department should use its public information to value factory overhead because it is the only reliable information on the record. Respondent claims its information is based on actual costs, rather than estimates, whereas petitioners' information is untimely, relies on information for products totally unlike the subject merchandise, and is based on unpublished information from a private source. Finally, respondent believes that if the Department uses petitioners' overhead figures, they should be adjusted according to information submitted by the Indian foundries.

DOC Response

These issues are moot because the Department did not use respondent's data.

Comment 3

Respondent argues that the Department should divide CDIW fittings and standard glands into two distinct classes or kinds of merchandise, according to the *Diversified Products* criteria, and terminate the case on glands because the petition contains no evidence of sales at less than fair value. Respondent states that fittings and glands have very different physical characteristics, are made of different materials, have different ANSI/AWWA standards, have different weights and sizes and require completely different manufacturing processes and skill levels. Respondent contends that fittings and glands have different uses and serve completely different functions: The function of the fittings is to change the direction of water flow, whereas glands are used to hold mechanical joint fittings in place. Respondent also states that the expectations of the ultimate user in buying fittings and glands are entirely different with regard to function and quality. Respondent notes that CDIW fittings and glands move in very different channels of trade and their methods of distribution differ. Furthermore, respondent cites the cost difference between fittings and glands. Respondent purports to fulfill all of the *Diversified Products* criteria.

Petitioners contend that all glands that may be used with CDIW fittings should be included within the scope of the petition because CDIW fittings and glands share the same physical characteristics, ultimate use, customer expectations, and channels of trade. Petitioners also believe that if the Department determines there is more than one class or kind of merchandise, it should provide petitioners with an opportunity to supplement their petition.

DOC Response

Please see "Class or Kind of Merchandise" section above.

Comment 4

Petitioners argue that the Department should include sales of Sigma's unrelated master wholesaler in its margin calculation. Petitioners contend that the sales account for a significant percentage of U.S. sales and there is no information on the record to indicate what effect these sales will have on the dumping margin.

Respondent argues that the exclusion of these sales would reduce the complexity of the investigation without affecting the outcome and that this exclusion would be consistent with the Department's regulations and prior practice.

DOC Response

This issue is moot because the Department did not use respondent's data.

Comment 5

Respondent argues that the Department's refusal to consider CMP's critical circumstances data, which was solicited by the Department, was based on an erroneous assumption that CMP was not entitled to a separate rate. Respondent states that CMP's exports to the United States decreased during any reference period that is used. Respondent also notes that petitioners' import data is not representative of imports of the subject merchandise because the tariff numbers are basket categories which include numerous items other than CDIW fittings. Finally, respondent asserts that the Department improperly inputed knowledge of dumping to Sigma based on a margin derived from BIA.

Petitioners believe that the Department's affirmative preliminary critical circumstances determination is in accordance with law and fact.

DOC Response

This issue is moot because respondent is not eligible for a separate rate. See our discussion in the "Separate Rates" section above.

Comment 6

Respondent argues that gland packing does not constitute further manufacturing.

DOC Response

This issue is moot because we did not use respondent's data.

Continuation of Suspension of Liquidation

In accordance with section 735(c)(4)(A) of the Act, we are directing the U.S. Customs Service to continue to suspend liquidation of all entries of CDIW fittings and accessories thereof from the PRC, as defined in the "Scope of Investigation" section of this notice, that are entered, or withdrawn from warehouse, for consumption on or after November 20, 1992, which is 90 days prior to the date of the publication of our affirmative preliminary determination. The Customs Service shall require a cash deposit or posting of a bond equal to the estimated margin amount by which the FMV of the subject merchandise exceeds the USP as shown below. The suspension of liquidation will remain in effect until further notice.

Manufacturer/producer/exporter	Weighted average margin percentage
All Manufacturers/Producers/Exporters.	127.38

ITC Notification

In accordance with section 735(d) of the Act, we have notified the ITC of our determination.

Notification to Interested Parties

This notice also serves as the only reminder to parties subject to administrative protective order (APO) in this investigation of their responsibility covering the return or destruction of proprietary information disclosed under APO in accordance with 19 CFR 353.34(d). Failure to comply is a violation of the APO.

This determination is published pursuant to section 735(d) of the Act (19 U.S.C. 1673d(d)) and 19 CFR 353.20(a)(4).

Dated: July 6, 1993.

Joseph A. Spetrini,

Acting Assistant Secretary for Import Administration.

[FR Doc. 93-16686 Filed 7-12-93; 8:45 am]

BILLING CODE 3510-DS-P

APPENDIX B

LIST OF PARTICIPANTS IN THE HEARING

CALENDAR OF PUBLIC HEARING

Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject : Certain Compact Ductile Iron Waterworks Fittings and Accessories Thereof from the People's Republic of China

Inv. No. : 731-TA-621 (Final)

Date and time: July 8, 1993 - 9:30 a.m.

Sessions were held in connection with the subject investigation in the Main Hearing Room (Room 101) of the USITC Building, 500 E Street, SW, Washington, DC.

In support of the imposition of antidumping duties

Collier, Shannon, Rill & Scott--Counsel
Washington, DC
on behalf of--

The U.S. Waterworks Fittings Producers Council and its individual members: Clow Water Systems Company; Tyler Pipe Industries, Inc.; and Union Foundry Company

C.M. Luna, vice president, McWane, Inc.
Joel Blair, utilities sales manager, Tyler Pipe Industries, Inc.
Dr. Patrick J. Magrath, Georgetown Economic Services

Paul C. Rosenthal)
Joanna K. McIntosh) --OF COUNSEL

In opposition to the imposition of antidumping duties

(No parties appeared)

APPENDIX C

COMMENTS RECEIVED FROM U.S. WATERWORKS FITTINGS PRODUCERS REGARDING THE DIFFERENCES AND SIMILARITIES IN THE PHYSICAL CHARACTERISTICS, USES, AND MANUFACTURING PROCESSES OF VARIOUS TYPES OF WATERWORKS FITTINGS

The Commission's producers' questionnaire requested U.S. producers of waterworks fittings to comment regarding the differences and similarities in the physical characteristics, uses, and manufacturing processes of ductile versus gray iron waterworks fittings, CDIW versus full-bodied waterworks fittings, and waterworks fittings 16 inches and under in nominal diameter versus those over 16 inches. Comments received from such firms are presented below.

Ductile Iron Waterworks Fittings versus Gray Iron Waterworks Fittings

Differences and Similarities in Physical Characteristics

Firm	Comment
***	"Compared to gray iron fittings, ductile iron fittings are: (a) stronger (b) generally harder (c) less brittle."
***	"Ductile iron has significantly greater strength, toughness and ductility than gray iron, allowing the production of lighter and more compact fittings."
***	"Only difference is the addition of magnesium in ductile iron, which nodularizes the molecular structure. Higher strength allows for thinner walls."
***	"Material is different. The standards for full bodied ductile iron and gray fittings are the same (ANSI/AWWA C110/A21.10). The weights are similar and shape and sizes are similar."
***	"C110 MJ Gray & DI have the same physical characteristics. The difference between the two is in metallurgical composition of the two irons."
***	"C-110 ductile iron and C-110 gray iron are identical in laying length, weight and are poured from the same patterns. However, ductile iron is much stronger due to the grade of raw material required to manufacture ductile iron. C-110 ductile iron is more readily accepted nationwide as compared to C-110 gray iron. The C-110 gray iron market is less each year and will continue to decline with zero demand in the near future."

***	"Ductile iron has greater strength and impact resistance. Compact ductile iron fittings (CDIW) are lighter in weight than conventional gray iron fittings."

Differences and Similarities in Uses

Firm	Comment
***	"Both ductile iron and gray iron fittings are used for water supply lines, sewerage lines and sewerage treatment plants. Ductile iron is generally specified for higher working pressure applications."
***	"Similar."
***	"Some municipalities will not allow gray iron in specs. Otherwise, identical uses."
***	"Similar uses."
***	"Same. C110 MJ Ductile has higher pressure rating than Gray iron."
***	"Waterworks fittings are used to join pipes in straight lines, change, divert, divide or direct the flow of oil, water, gas or steam in piping systems. They are also used in municipal water purification and waste water plants, pumping stations, and sewage disposal and industrial processing plants. C-110 fittings, whether ductile or gray iron, are not in great demand. The above uses can be serviced by the lighter, shorter, easier to handle C-153 compact fittings."
***	"The fittings can be used in the same applications, but the greater impact resistance and strength will allow the ductile products to outperform gray iron products."

Differences and Similarities in Manufacturing Processes

Firm	Comment
***	"We utilize the same manufacturing processes to produce ductile iron and gray iron fittings, except ductile iron requires some additional input in the areas of risering, burning, grinding, machining, and quality control."

***	"Manufacturing processes may be similar, but production of ductile iron is more demanding: purer melting stock; tighter temperature control; tighter chemical control; greater quantity of alloy inoculants; lower flask yields; and higher scrap loss rates."
***	"Magnesium must be added to ductile iron. The chipping & grinding process is slightly more efficient with grey iron since it is more brittle than ductile."
***	"The raw materials used in ductile iron and gray iron fittings are different. The process for making ductile iron is different from making cast iron. The molding process and all other manufacturing steps are similar."
***	"Must change patterns and iron type."
***	"Raw materials are combined in a cupola and are heated to a molten or liquid state. The molten iron in the cupola is then poured into a flask holding molds that contain an impression of the final configuration desired for individual casting models. After the iron solidifies, the fittings are "shaken out" from the molds and allowed to cool. The castings are then machined, coated and cement lined."
***	"Additional steps are required in manufacturing to convert gray iron to ductile iron. Sulfur content must be greatly reduced, and a nodularizing agent (magnesium) must be added to the molten iron. Casting and finishing processes are essentially the same for both."

Differences and Similarities in Machinery and Equipment

Firm	Comment
***	"We utilize the same equipment to produce ductile iron and gray iron fittings except ductile iron requires a ductile treating (nodularization) and desulphurizing stations."
***	"May be similar, but production of ductile iron requires additional equipment for the process of desulfurization and of magnesium treatment, which are not required in gray iron."

***	"Magnesium plunger and exhaust hood necessary to innoculate iron with mag. Need shearing or band saw to cut magnesium into small blocks."
***	"The equipment needed to make full body fittings in ductile iron or cast iron is the same as long as the comparison is made for the same nominal size."
***	"None."
***	"The manufacture of full-body fittings is a labor intensive, costly process involving a low volume, batch type operation having one fitting to a flask. Casting molds are constructed by hand in many procedures. Also, specilized cores are used to form the inner cavity of the fitting. Once cast, the heavier castings are manually hoisted from the molds and shaken out by hand if made on some units. Even if produced by machines the volume of sand, iron and other raw materials required are costly."
***	"Desulfurizing and magnesium - addition equipment are required to produce ductile iron."

CDIW Fittings versus FBDIW Fittings

Differences and Similarities in Physical Characteristics

Firm	Comment
***	"CDIW and F-B DIW fittings have similar physical characteristics. CDIW fittings have shorter laying lengths."
***	"CDIW fittings are lighter, more compact, and easier to use than F-B DIW fittings."
***	"Compact fittings have a thinner wall than F-B. The flange on compact is faceted, whereas F-B is round."
***	"Shape, laying lengths and wall thickness are different. Both are made from ductile iron."
***	"CDIW fittings have short laying dimensions, have thinner wall thickness and weigh less."
***	"A compact fitting has a shorter body design than a full bodied fitting because the straight section of the body is deleted to provide a more compact and less heavy fitting without reducting[sic] strength or flow characteristics. The compact design has a

	thinner wall than the comparable full-bodied design. The compact has the same pressure rating as the full body. However, its physical characteristics makes the ease of handling and installation more acceptable thus it is the choice of the owners and/or contractors."
***	"Thinner wall sections and shorter laying lengths in CDIW than FB DIW."

Differences and Similarities in Uses

Firm	Comment
***	"The end uses for both CDIW and F-B DIW fittings are similar."
***	"Similar."
***	"Identical."
***	"Similar uses."
***	"Same."
***	"C-153 fittings are used in many ways and/or places that C-110 fittings would not be used. The main usage of C-153 fittings where C-110 fittings would not be used is a PVC pipe. However, any installation requiring fittings would be more receptive to C-153 compact fittings due to the ease of handling and installation as compared to C-110 fittings. An example of this would be a 6" MJ tee in C-153 vs a 6" MJ tee in C-110. One man could easily handle the C-153 compact tee without the use of machinery. This would not be true if C-110 fittings were used. One man could not handle a C-110 MJ 6" tee without the use of machinery. Again, the above uses of C-153 fittings with the advantages of this product makes this line of fittings (C-153) the product of choice."
***	"Same usage - customer preference based on cost, weight."

Differences and Similarities in Manufacturing Processes

Firm	Comment
***	"Similar."

***	"We utilize similar manufacturing processes for both CDIW and F-B DIW fittings except all CDIW fittings are air tested. Most F-B DIW fittings are not."
***	"Identical."
***	"Same raw materials are used. Process is similar."
***	"Must change patterns."
***	"Due to gating and yield differences, the compact fitting comprises only approximately 60% of the weight of comparable full bodied fittings. This means, of course, if the two products were made on the same molding unit, the costs would be higher on a per unit basis for the compact fittings. Furthermore, the demand for fittings is primarily in the CDIW product line."
***	"Same processes - different tooling (molds and coreboxes)."

Differences and Similarities in Machinery and Equipment

Firm	Comment
***	"We utilize the same production machinery to produce both CDIW and F-B DIW fittings. We utilize different pattern and corebox equipment for CDIW vs. F-B DIW fittings."
***	"Similar."
***	"Identical."
***	"Similar machinery and equipment are used."
***	"None"
***	"The manufacture of full-body fittings is a labor intensive, costly process involving a low volume, batch type operation having one fitting to a flask. Compact fittings may have several. Casting molds are constructed by hand in many procedures and not molded on automatic lines as with CDIW fittings. Also, specilized cores are used to form the inner cavity of the fitting. Once cast, the heavier castings are manually hoisted from the molds and shaken out by hand if made on some units. Even if produced by machines the volume of sand, iron and other raw materials required are costly."

***	"Same machinery - except tooling."

CDIW or Other Waterworks Fittings 16 inches and Under in Nominal Diameter versus CDIW and Other Waterworks Fittings Over 16 inches in Nominal Diameter

Differences and Similarities in Physical Characteristics

Firm	Comment
***	"CDIW and other waterworks fittings have similar physical characteristics regardless of size."
***	"Similar."
***	"Same"
***	"The physical characteristics are similar for the normal size of the openings."
***	"All 3" - 24" CDIW Fittings have shorter laying lengths, thinner wall thickness and weigh less than comparable C110 Full Body Fittings."
***	"Differences in volume of water transmitted."
***	"We produce all fittings from ductile iron, even if only gray iron is required by standard. We only make CDIW fittings up through 12". CDIW fittings have thinner wall sections and are lighter than conventional fittings. The only other difference in the above groups is size."

Differences and Similarities in Uses

Firm	Comment
***	"Similar end uses but obviously different size lines."
***	"Similar."
***	"Identical"
***	"All waterworks fittings are used in water transmission lines."
***	"Same. Conveys water or other liquids."

***	Same as response given for ductile iron versus gray iron waterworks fittings.
***	"Large fittings are used for higher flow applications, small fittings for lower flow ranges."

Differences and Similarities in Manufacturing Processes

Firm	Comment
***	"Manufacturing processes are similar for large vs. small fittings. Large fittings generally require more machining."
***	"Similar."
***	"Large fitting 18" and above are manufactured manually and thus take longer, but the "process" is the same."
***	"The raw material inputs are similar. The equipment used will generally be different from those used to make smaller fittings since larger fittings will be done manually and floor molding. Smaller fittings generally up to 10"-12" are done by machine molding."
***	"Process not as highly automated for over 16"."
***	Same as response given for ductile iron versus gray iron waterworks fittings.
***	"Different molding lines are used to cast fittings based on size. *** uses only green sand up through about 36" diameter, and uses resin sand above that size. There are two different green sand molding."

Differences and Similarities in Machinery and Equipment

Firm	Comment
***	"Larger and generally more expensive machinery and equipment is utilized to produce larger diameter fittings; overhead cranes, conveyors, patterns, coreboxes, machine tools, blast equipment, molding equipment, core sand mixers, and flasks."

***	"Can vary quite a lot. The smaller size range is much more likely to be produced on automatic or semi-automated equipment, vs. hand, manual, or floor methods for the larger range."
***	"Automated production line for <18". Manual process for >18"."
***	"Fittings greater than 18" are made on jolt table molding machines versus automatic molding units."
***	Same as response given for CDIW fittings versus F-B DIW fittings.
***	"The three different molding lines have different equipment for filling, compacting, and pouring the flasks (molds)."

APPENDIX D

SUMMARY DATA

Table D-1
Waterworks fittings: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

Item	Reported data			Jan.-Mar.--		Period changes			Jan.-Mar.
	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
U.S. consumption quantity:									
Amount	***	***	***	***	***	-7.3	-12.8	+6.2	-2.4
Producers' share 1/	96.7	93.5	90.0	91.8	88.3	-6.8	-3.2	-3.5	-3.5
Importers' share: 1/									
China (subject)	2.4	4.1	6.6	5.3	6.5	+4.3	+1.8	+2.5	+1.2
Other sources	.9	2.4	3.4	2.9	5.1	+2.5	+1.5	+1.0	+2.3
Total	3.3	6.5	10.0	8.2	11.7	+6.8	+3.2	+3.5	+3.5
U.S. consumption value:									
Amount	***	***	***	***	***	+10.6	-4.9	+16.2	+9.5
Producers' share 1/	97.0	94.9	92.8	94.1	92.4	-3.9	-2.2	-1.7	-1.8
Importers' share: 1/									
China (subject)	2.2	3.3	4.4	3.7	4.1	+2.0	+1.1	+1.0	+0.4
Other sources	.8	1.9	2.8	2.2	3.5	+1.9	+1.1	+0.8	+1.3
Total	3.0	5.1	7.2	5.9	7.6	+3.9	+2.2	+1.7	+1.8
U.S. importers' imports from--									
China (subject):									
U.S. shipments quantity	***	***	***	***	***	+159.2	+51.9	+70.7	+19.2
U.S. shipments value	***	***	***	***	***	+111.5	+41.0	+50.0	+22.3
Unit value	$***	$***	$***	$***	$***	-18.4	-7.1	-12.1	+2.6
Ending inventory qty	***	***	***	***	***	+57.6	+84.0	-14.3	-43.2
Other sources:									
U.S. shipments quantity	***	***	***	***	***	+252.3	+132.1	+51.8	+75.2
U.S. shipments value	***	***	***	***	***	+283.5	+133.1	+64.5	+75.4
Unit value	$***	$***	$***	$***	$***	+8.8	+0.4	+8.4	+0.1
Ending inventory qty	***	***	***	***	***	+54.6	+25.1	+23.6	-4.2
All sources:									
U.S. shipments quantity	***	***	***	***	***	+184.6	+73.7	+63.8	+38.7
U.S. shipments value	***	***	***	***	***	+155.7	+64.7	+55.3	+42.1
Unit value	$***	$***	$***	$***	$***	-10.2	-5.2	-5.2	+2.5
U.S. producers'--									
Average capacity quantity	282,237	279,951	286,177	71,695	71,596	+1.4	-0.8	+2.2	-0.1
Production quantity	194,473	160,236	171,827	45,151	38,869	-11.6	-17.6	+7.2	-13.9
Capacity utilization 1/	70.5	58.6	61.4	64.4	55.6	-9.1	-11.9	+2.8	-8.9
U.S. shipments:									
Quantity	***	***	***	***	***	-13.8	-15.7	+2.2	-6.1
Value	***	***	***	***	***	+6.1	-7.0	+14.1	+7.4
Unit value	$***	$***	$***	$***	$***	+23.1	+10.3	+11.6	+14.4
Export shipments:									
Quantity	***	***	***	***	***	+90.1	+92.5	-1.2	-25.0
Exports/shipments 1/	***	***	***	***	***	+0.6	+0.6	2/	-0.1
Value	***	***	***	***	***	+159.3	+121.5	+17.1	-36.0
Unit value	$***	$***	$***	$***	$***	+36.4	+15.0	+18.5	-14.6
Ending inventory quantity	56,753	51,329	51,375	57,392	53,330	-9.5	-9.6	+0.1	-7.1
Inventory/shipments 1/	***	***	***	***	***	+1.3	+1.9	-0.6	-0.4
Production workers	1,890	1,732	1,740	1,730	1,738	-7.9	-8.4	+0.5	+0.5
Hours worked (1,000s)	4,107	3,528	3,433	912	822	-16.4	-14.1	-2.7	-9.9
Total comp. ($1,000)	62,673	58,112	57,850	14,279	13,638	-7.7	-7.3	-0.5	-4.5
Hourly total compensation	$15.26	$16.47	$16.85	$15.66	$16.59	+10.4	+7.9	+2.3	+6.0
Productivity (Lbs./hour)	47.4	45.4	50.1	49.5	47.3	+5.7	-4.1	+10.2	-4.5
Unit labor costs	$0.32	$0.36	$0.34	$0.32	$0.35	+4.5	+12.5	-7.2	+10.9
Net sales--									
Quantity	185,825	160,717	167,582	38,395	36,135	-9.8	-13.5	+4.3	-5.9
Value	158,627	144,283	157,326	33,552	35,112	-0.8	-9.0	+9.0	+4.6
Cost of goods sold (COGS)	149,770	131,671	142,955	30,260	31,542	-4.6	-12.1	+8.6	+4.2
Gross profit (loss)	8,857	12,612	14,371	3,292	3,570	+62.3	+42.4	+13.9	+8.4
SG&A expenses	11,531	12,577	13,092	3,107	3,462	+13.5	+9.1	+4.1	+11.4
Operating income (loss)	(2,674)	35	1,279	185	108	+147.8	+101.3	3/	-41.6
Capital expenditures	6,795	12,756	3,987	1,926	713	-41.3	+87.7	-68.7	-63.0
Unit COGS	$0.81	$0.82	$0.85	$0.79	$0.87	+5.8	+1.7	+4.1	+10.8
COGS/sales 1/	94.4	91.3	90.9	90.2	89.8	-3.6	-3.2	-0.4	-0.4
Op.income (loss)/sales 1/	(1.7)	4/	0.8	0.6	0.3	+2.5	+1.7	+0.8	-0.2

1/ 'Reported data' are in percent and 'period changes' are in percentage-point.
2/ A decrease of less than 0.05 percentage points.
3/ An increase of 1,000 percent or more.
4/ Less than 0.05 percent.

Note.--Period changes are derived from the unrounded data. Period changes involving negative period data are positive if the amount of the negativity decreases and negative if the amount of the negativity increases. Because of rounding, figures may not add to the totals shown. Unit values and other ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-2
CDIW fittings measuring not over 16 inches in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

Item	Reported data			Jan.-Mar.--		Period changes			Jan.-Mar.
	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
U.S. consumption quantity:									
Amount	***	***	***	***	***	+4.6	-9.0	+15.0	+5.2
Producers' share 1/	92.6	86.6	79.9	82.2	78.6	-12.7	-5.9	-6.7	-3.6
Importers' share: 1/									
China	6.9	11.6	17.2	15.4	17.5	+10.2	+4.6	+5.6	+2.1
Other sources	.5	1.8	2.9	2.4	3.9	+2.4	+1.3	+1.1	+1.5
Total	7.4	13.4	20.1	17.8	21.4	+12.7	+5.9	+6.7	+3.6
U.S. consumption value:									
Amount	***	***	***	***	***	+10.0	-4.8	+15.5	+6.0
Producers' share 1/	92.4	87.9	83.8	85.7	82.5	-8.6	-4.5	-4.1	-3.2
Importers' share: 1/									
China	7.1	10.6	13.7	12.3	14.2	+6.6	+3.4	+3.2	+1.9
Other sources	.5	1.6	2.5	2.0	3.3	+2.0	+1.1	+0.9	+1.3
Total	7.6	12.1	16.2	14.3	17.5	+8.6	+4.5	+4.1	+3.2
U.S. importers' imports from--									
China:									
U.S. shipments quantity	***	***	***	***	***	+159.2	+51.9	+70.7	+19.2
U.S. shipments value	***	***	***	***	***	+111.5	+41.0	+50.0	+22.3
Unit value	$***	$***	$***	$***	$***	-18.4	-7.1	-12.1	+2.6
Ending inventory qty	***	***	***	***	***	+57.6	+84.0	-14.3	-43.2
Other sources:									
U.S. shipments quantity	***	***	***	***	***	+518.0	+229.8	+87.4	+73.5
U.S. shipments value	***	***	***	***	***	+462.8	+207.9	+82.8	+75.7
Unit value	$***	$***	$***	$***	$***	-8.9	-6.7	-2.4	+1.3
Ending inventory qty	***	***	***	***	***	+66.6	+47.4	+13.1	-10.4
All sources:									
U.S. shipments quantity	***	***	***	***	***	+183.1	+63.7	+72.9	+26.4
U.S. shipments value	***	***	***	***	***	+133.8	+51.6	+54.2	+29.7
Unit value	$***	$***	$***	$***	$***	-17.4	-7.4	-10.8	+2.7
U.S. producers'--									
Average capacity quantity	***	***	***	***	***	+8.9	+1.0	+7.8	-6.0
Production quantity	***	***	***	***	***	-9.0	-15.4	+7.6	-20.1
Capacity utilization 1/	72.7	61.1	59.5	64.7	54.7	-13.2	-11.6	-1.6	-10.0
U.S. shipments:									
Quantity	***	***	***	***	***	-9.7	-14.9	+6.0	+0.6
Value	***	***	***	***	***	-0.2	-9.4	+10.2	+2.0
Unit value	$***	$***	$***	$***	$***	+10.9	+6.5	+4.1	+1.2
Export shipments:									
Quantity	0	0	0	0	0	0	0	0	0
Exports/shipments 1/	0	0	0	0	0	0	0	0	0
Value	0	0	0	0	0	0	0	0	0
Unit value	2/	2/	2/	2/	2/	2/	2/	2/	2/
Ending inventory quantity	14,585	14,620	15,445	18,542	16,056	+5.9	+0.2	+5.6	-13.4
Inventory/shipments 1/	***	***	***	***	***	+4.0	+4.1	-0.1	-5.4
Production workers	515	471	493	481	459	-4.3	-8.5	+4.7	-4.6
Hours worked (1,000s)	1,162	971	963	271	219	-17.1	-16.4	-0.8	-19.2
Total comp. ($1,000)	18,579	16,179	16,869	4,247	3,635	-9.2	-12.9	+4.3	-14.4
Hourly total compensation	$15.99	$16.66	$17.52	$15.67	$16.60	+9.6	+4.2	+5.1	+5.9
Productivity (Lbs./hour)	***	***	***	***	***	+9.8	+1.2	+8.5	-1.1
Unit labor costs	$0.29	$0.29	$0.29	$0.27	$0.29	-0.2	+3.0	-3.1	+7.1
Net sales--									
Quantity	63,529	54,000	57,170	11,778	11,868	-10.0	-15.0	+5.9	+0.8
Value	46,379	42,001	46,270	9,532	9,723	-0.2	-9.4	+10.2	+2.0
Cost of goods sold (COGS)	46,038	38,927	43,357	8,651	9,169	-5.8	-15.4	+11.4	+6.0
Gross profit (loss)	341	3,074	2,913	881	554	+754.3	+801.5	-5.2	-37.1
SG&A expenses	2,900	3,025	3,362	728	796	+15.9	+4.3	+11.1	+9.3
Operating income (loss)	(2,559)	49	(449)	153	(242)	+82.5	+101.9	3/	-258.2
Capital expenditures	123	4,849	140	26	51	+13.8	4/	-97.1	+96.2
Unit COGS	$0.72	$0.72	$0.76	$0.73	$0.77	+4.7	-0.5	+5.2	+5.2
COGS/sales 1/	99.3	92.7	93.7	90.8	94.3	-5.6	-6.6	+1.0	+3.5
Op.income (loss)/sales 1/	(5.5)	0.1	(1.0)	1.6	(2.5)	+4.5	+5.6	-1.1	-4.1

1/ 'Reported data' are in percent and 'period changes' are in percentage-point.
2/ Not applicable.
3/ A decrease of 1,000 percent or more.
4/ An increase of 1,000 percent or more.

Note.--Period changes are derived from the unrounded data. Period changes involving negative period data are positive if the amount of the negativity decreases and negative if the amount of the negativity increases. Because of rounding, figures may not add to the totals shown. Unit values and other ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-3
CDIW fittings measuring over 16 inches in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

Item	Reported data			Jan.-Mar.--		Period changes			
	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	Jan.-Mar. 1992-93
U.S. consumption quantity:									
Amount	***	***	***	***	***	+12.1	+7.4	+4.4	-0.4
Producers' share 1/	95.6	89.8	79.8	88.2	74.3	-15.8	-5.8	-10.0	-13.9
Importers' share: 1/									
All sources	4.4	10.2	20.2	11.8	25.7	+15.8	+5.8	+10.0	+13.9
U.S. consumption value:									
Amount	***	***	***	***	***	+21.7	+13.8	+6.9	+1.2
Producers' share 1/	95.1	90.5	85.6	90.9	79.4	-9.5	-4.6	-5.0	-11.5
Importers' share: 1/									
All sources	4.9	9.5	14.4	9.1	20.6	+9.5	+4.6	+5.0	+11.5
U.S. importers' imports from--									
All sources:									
U.S. shipments quantity	***	***	***	***	***	+414.1	+148.7	+106.7	+116.7
U.S. shipments value	***	***	***	***	***	+257.5	+119.6	+62.8	+129.4
Unit value	$***	$***	$***	$***	$***	-30.5	-11.7	-21.3	+5.9
U.S. producers'--									
Average capacity quantity	***	***	***	***	***	-13.6	-16.9	+3.9	-7.0
Production quantity	***	***	***	***	***	-28.5	-30.3	+2.7	-24.8
Capacity utilization 1/	***	***	***	***	***	-11.2	-9.7	-1.5	-11.2
U.S. shipments:									
Quantity	***	***	***	***	***	-6.4	+0.9	-7.2	-16.1
Value	***	***	***	***	***	+9.5	+8.3	+1.1	-11.6
Unit value	$***	$***	$***	$***	$***	+17.0	+7.4	+9.0	+5.3
Export shipments:									
Quantity	0	0	0	0	0	0	0	0	0
Exports/shipments 1/	0	0	0	0	0	0	0	0	0
Value	0	0	0	0	0	0	0	0	0
Unit value	2/	2/	2/	2/	2/	2/	2/	2/	2/
Ending inventory quantity	***	***	***	***	***	-15.8	-9.1	-7.3	-14.5
Inventory/shipments 1/	***	***	***	***	***	+9.2	+9.3	3/	+0.9
Production workers	***	***	***	***	***	-22.2	-20.4	-2.3	-6.8
Hours worked (1,000s)	***	***	***	***	***	-30.4	-28.8	-2.2	-20.7
Total comp. ($1,000)	***	***	***	***	***	-15.3	-24.8	+12.7	-18.8
Hourly total compensation	$***	$***	$***	$***	$***	+21.8	+5.6	+15.3	+2.4
Productivity (Lbs./hour)	***	***	***	***	***	+2.8	-2.2	+5.1	-6.0
Unit labor costs	$***	$***	$***	$***	$***	+18.4	+8.0	+9.7	+8.9
Net sales--									
Quantity	***	***	***	***	***	-6.4	+0.9	-7.2	-16.1
Value	***	***	***	***	***	+9.5	+8.3	+1.1	-11.6
Cost of goods sold (COGS)	***	***	***	***	***	+1.7	-0.9	+2.6	-4.9
Gross profit (loss)	***	***	***	***	***	+48.2	+54.1	-3.8	-32.1
SG&A expenses	***	***	***	***	***	+22.6	+27.4	-3.8	+1.4
Operating income (loss)	***	***	***	***	***	+62.4	+68.9	-3.8	-44.7
Capital expenditures	***	***	***	***	***	+33.3	4/	-97.1	+100.0
Unit COGS	$***	$***	$***	$***	$***	+8.7	-1.8	+10.6	+13.4
COGS/sales 1/	***	***	***	***	***	-5.9	-7.1	+1.2	+5.7
Op.income (loss)/sales 1/	***	***	***	***	***	+5.2	+6.0	-0.8	-6.7

1/ 'Reported data' are in percent and 'period changes' are in percentage-point.
2/ Not applicable.
3/ A decrease of less than 0.05 percentage points.
4/ An increase of 1,000 percent or more.

Note.--Period changes are derived from the unrounded data. Unit values and other ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-4
FBDIW fittings measuring not over 16 inches in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

Item	Reported data			Jan.-Mar.--		Period changes			
	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	Jan.-Mar. 1992-93
U.S. consumption quantity:									
Amount	***	***	***	***	***	-24.7	-19.0	-7.0	+6.2
Producers' share 1/	99.9	99.6	99.1	98.4	99.3	-0.8	-0.3	-0.5	+1.0
Importers' share: 1/									
All sources	0.1	0.4	0.9	1.6	0.7	+0.8	+0.3	+0.5	-1.0
U.S. consumption value:									
Amount	***	***	***	***	***	-14.9	-15.8	+1.0	+11.5
Producers' share 1/	99.9	99.5	99.0	98.6	99.3	-0.9	-0.4	-0.5	+0.7
Importers' share: 1/									
All sources	0.1	0.5	1.0	1.4	0.7	+0.9	+0.4	+0.5	-0.7
U.S. importers' imports from--									
All sources:									
U.S. shipments quantity	***	***	***	***	***	+996.0	+392.0	+122.8	-57.9
U.S. shipments value	***	***	***	***	***	2/	+489.5	+108.0	-44.3
Unit value	$***	$***	$***	$***	$***	+11.9	+19.8	-6.6	+32.3
U.S. producers'--									
Average capacity quantity	40,630	42,144	41,391	9,149	11,319	+1.9	+3.7	-1.8	+23.7
Production quantity	40,602	32,394	30,091	7,365	8,013	-25.9	-20.2	-7.1	+8.8
Capacity utilization 1/	94.3	74.4	70.3	78.0	68.0	-24.0	-19.9	-4.1	-10.0
U.S. shipments:									
Quantity	***	***	***	***	***	-25.3	-19.3	-7.5	+7.3
Value	***	***	***	***	***	-15.7	-16.1	+0.5	+12.2
Unit value	$0.80	$0.87	$0.92	$0.92	$0.90	+14.2	+8.3	+5.4	-2.9
Export shipments:									
Quantity	0	0	0	0	0	0	0	0	0
Exports/shipments 1/	0	0	0	0	0	0	0	0	0
Value	0	0	0	0	0	0	0	0	0
Unit value	3/	3/	3/	3/	3/	3/	3/	3/	3/
Ending inventory quantity	16,503	15,645	14,588	16,086	15,112	-11.6	-5.2	-6.8	-6.1
Inventory/shipments 1/	***	***	***	***	***	+7.4	+7.0	+0.4	-7.3
Production workers	435	379	344	317	349	-20.9	-12.9	-9.2	+10.1
Hours worked (1,000s)	923	806	656	156	164	-28.9	-12.7	-18.6	+5.1
Total comp. ($1,000)	14,660	13,942	11,158	2,542	2,742	-23.9	-4.9	-20.0	+7.9
Hourly total compensation	$15.88	$17.30	$17.01	$16.29	$16.72	+7.1	+8.9	-1.7	+2.6
Productivity (Lbs./hour)	44.0	40.2	45.9	47.2	48.9	+4.3	-8.6	+14.1	+3.5
Unit labor costs	$0.36	$0.43	$0.37	$0.35	$0.34	+2.7	+19.2	-13.8	-0.9
Net sales--									
Quantity	35,066	27,169	25,899	5,463	6,315	-26.1	-22.5	-4.7	+15.6
Value	28,212	23,671	23,791	5,046	5,663	-15.7	-16.1	+0.5	+12.2
Cost of goods sold (COGS)	28,819	21,862	21,497	4,495	5,010	-25.4	-24.1	-1.7	+11.5
Gross profit (loss)	(607)	1,809	2,294	551	653	+477.9	+398.0	+26.8	+18.5
SG&A expenses	2,002	1,902	2,010	485	539	+0.4	-5.0	+5.7	+11.1
Operating income (loss)	(2,609)	(93)	284	66	114	+110.9	+96.4	+405.4	+72.7
Capital expenditures	61	1,921	35	4	14	-42.6	2/	-98.2	+250.0
Unit COGS	$0.82	$0.80	$0.83	$0.82	$0.79	+1.0	-2.1	+3.2	-3.6
COGS/sales 1/	102.2	92.4	90.4	89.1	88.5	-11.8	-9.8	-2.0	-0.6
Op.income (loss)/sales 1/	(9.2)	(0.4)	1.2	1.3	2.0	+10.4	+8.9	+1.6	+0.7

1/ 'Reported data' are in percent and 'period changes' are in percentage-point.
2/ An increase of 1,000 percent or more.
3/ Not applicable.

Note.--Period changes are derived from the unrounded data. Period changes involving negative period data are positive if the amount of the negativity decreases and negative if the amount of the negativity increases. Unit values and other ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-5
FBDIW fittings measuring over 16 inches in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

Item	Reported data			Jan.-Mar.--		Period changes			
	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	Jan.-Mar. 1992-93
U.S. consumption quantity:									
Amount	***	***	***	***	***	-0.9	-15.6	+17.4	-8.3
Producers' share 1/	100.0	99.8	99.8	100.0	99.9	-0.2	-0.2	2/	-0.1
Importers' share: 1/									
All sources	3/	0.2	0.2	0	0.1	+0.2	+0.2	4/	+0.1
U.S. consumption value:									
Amount	***	***	***	***	***	+5.8	-13.6	+22.4	-4.8
Producers' share 1/	100.0	99.8	99.5	100.0	99.5	-0.5	-0.2	-0.3	-0.5
Importers' share: 1/									
All sources	3/	0.2	0.5	0	0.5	+0.5	+0.2	+0.3	+0.5
U.S. importers' imports from--									
All sources:									
U.S. shipments quantity	***	***	***	***	***	5/	+920.0	+17.6	6/
U.S. shipments value	***	***	***	***	***	5/	+620.0	+225.0	6/
Unit value	$1.00	$0.71	$1.95	6/	$2.60	+95.0	-29.4	+176.3	6/
U.S. producers'--									
Average capacity quantity	34,817	36,089	36,710	8,794	9,188	+5.4	+3.7	+1.7	+4.5
Production quantity	35,766	30,629	37,408	9,345	8,262	+4.6	-14.4	+22.1	-11.6
Capacity utilization 1/	95.7	83.2	99.8	103.9	87.7	+4.0	-12.5	+16.5	-16.2
U.S. shipments:									
Quantity	***	***	***	***	***	-1.0	-15.7	+17.4	-8.4
Value	***	***	***	***	***	+5.3	-13.7	+22.1	-5.3
Unit value	$0.99	$1.06	$1.13	$1.16	$1.18	+14.1	+6.8	+6.8	+2.5
Export shipments:									
Quantity	0	0	0	0	0	0	0	0	0
Exports/shipments 1/	0	0	0	0	0	0	0	0	0
Value	0	0	0	0	0	0	0	0	0
Unit value	6/	6/	6/	6/	6/	6/	6/	6/	6/
Ending inventory quantity	12,991	12,400	13,053	13,187	13,485	+0.5	-4.5	+5.3	+2.3
Inventory/shipments 1/	***	***	***	***	***	+0.5	+4.7	-4.1	+4.5
Production workers	***	***	***	***	***	+3.9	-5.0	+9.3	+5.1
Hours worked (1,000s)	***	***	***	***	***	-2.6	-3.8	+1.3	+1.8
Total comp. ($1,000)	***	***	***	***	***	+6.1	+5.7	+0.4	+3.7
Hourly total compensation	$15.32	$16.84	$16.69	$16.37	$16.68	+8.9	+9.9	-0.9	+1.9
Productivity (Lbs./hour)	***	***	***	***	***	+7.4	-11.0	+20.6	-13.1
Unit labor costs	$***	$***	$***	$***	$***	+1.5	+23.5	-17.8	+17.3
Net sales--									
Quantity	***	***	***	***	***	-7.6	-19.2	+14.3	-7.6
Value	***	***	***	***	***	+5.3	-13.7	+22.1	-5.3
Cost of goods sold (COGS)	***	***	***	***	***	+10.8	-17.5	+34.3	-7.7
Gross profit (loss)	***	***	***	***	***	-153.5	+98.0	-127.0	5/
SG&A expenses	***	***	***	***	***	+28.2	-0.5	+28.8	-5.1
Operating income (loss)	***	***	***	***	***	-175.1	+80.3	7/	+27.0
Capital expenditures	***	***	***	***	***	-40.0	5/	-98.1	+50.0
Unit COGS	$***	$***	$***	$***	$***	+19.9	+2.1	+17.5	8/
COGS/sales 1/	***	***	***	***	***	+5.0	-4.3	+9.3	-2.5
Op.income (loss)/sales 1/	***	***	***	***	***	-6.6	+3.2	-9.7	+2.5

1/ 'Reported data' are in percent and 'period changes' are in percentage-point.
2/ A decrease of less than 0.05 percentage points.
3/ Less than 0.05 percent.
4/ An increase of less than 0.05 percentage points.
5/ An increase of 1,000 percent or more.
6/ Not applicable.
7/ A decrease of 1,000 percent or more.
8/ A decrease of less than 0.05 percent.

Note.--Period changes are derived from the unrounded data. Period changes involving negative period data are positive if the amount of the negativity decreases and negative if the amount of the negativity increases. Unit values and other ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-6
FBGIW fittings measuring not over 16 inches in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
U.S. consumption quantity:									
Amount	***	***	***	***	***	-22.5	-13.8	-10.0	-9.9
Producers' share 1/	95.9	90.6	86.8	90.3	81.2	-9.1	-5.3	-3.8	-9.1
Importers' share: 1/									
All sources	4.1	9.4	13.2	9.7	18.8	+9.1	+5.3	+3.8	+9.1
U.S. consumption value:									
Amount	***	***	***	***	***	-12.3	-9.8	-2.8	-10.8
Producers' share 1/	96.2	91.5	87.7	90.4	83.5	-8.5	-4.7	-3.8	-6.9
Importers' share: 1/									
All sources	3.8	8.5	12.3	9.6	16.5	+8.5	+4.7	+3.8	+6.9
U.S. importers' imports from--									
All sources:									
U.S. shipments quantity	***	***	***	***	***	+149.6	+97.0	+26.7	+74.3
U.S. shipments value	***	***	***	***	***	+181.3	+100.1	+40.6	+53.2
Unit value	$0.59	$0.60	$0.67	$0.66	$0.58	+12.7	+1.6	+10.9	-12.1
U.S. producers'--									
Average capacity quantity	***	***	***	***	***	-14.7	-11.8	-3.3	-20.5
Production quantity	***	***	***	***	***	-25.3	-23.8	-1.9	-38.0
Capacity utilization 1/	***	***	***	***	***	-5.9	-6.9	+0.9	-13.8
U.S. shipments:									
Quantity	***	***	***	***	***	-29.8	-18.6	-13.8	-19.0
Value	***	***	***	***	***	-20.0	-14.1	-6.9	-17.6
Unit value	$0.72	$0.76	$0.83	$0.79	$0.88	+15.6	+6.2	+8.9	+12.2
Export shipments:									
Quantity	0	0	0	0	0	0	0	0	0
Exports/shipments 1/	0	0	0	0	0	0	0	0	0
Value	0	0	0	0	0	0	0	0	0
Unit value	2/	2/	2/	2/	2/	2/	2/	2/	2/
Ending inventory quantity	***	***	***	***	***	-23.3	-21.6	-2.3	-22.7
Inventory/shipments 1/	***	***	***	***	***	+3.1	-1.2	+4.3	-1.7
Production workers	***	***	***	***	***	-13.1	-11.7	-1.6	-20.1
Hours worked (1,000s)	***	***	***	***	***	-26.1	-27.6	+2.0	-29.8
Total comp. ($1,000)	***	***	***	***	***	-17.5	-21.8	+5.5	-25.8
Hourly total compensation	$***	$***	$***	$***	$***	+11.6	+7.9	+3.4	+7.3
Productivity (Lbs./hour)	***	***	***	***	***	+0.7	+3.9	-3.0	-10.3
Unit labor costs	$***	$***	$***	$***	$***	+10.8	+3.9	+6.7	+19.6
Net sales--									
Quantity	***	***	***	***	***	-32.5	-20.3	-15.3	-27.0
Value	***	***	***	***	***	-20.7	-14.8	-6.9	-17.6
Cost of goods sold (COGS)	***	***	***	***	***	-23.9	-9.8	-15.7	-19.6
Gross profit (loss)	***	***	***	***	***	-9.0	-33.4	+36.6	-9.5
SG&A expenses	***	***	***	***	***	-13.6	+1.3	-14.7	-2.3
Operating income (loss)	***	***	***	***	***	-7.2	-46.5	+73.3	-13.2
Capital expenditures	3/	3/	3/	3/	3/	3/	3/	3/	3/
Unit COGS	$***	$***	$***	$***	$***	+12.7	+13.2	-0.5	+10.2
COGS/sales 1/	***	***	***	***	***	-3.2	+4.7	-7.9	-1.9
Op.income (loss)/sales 1/	***	***	***	***	***	+2.7	-5.8	+8.4	+0.7

1/ 'Reported data' are in percent and 'period changes' are in percentage-point.
2/ Not applicable.
3/ Not available.

Note.--Period changes are derived from the unrounded data. Unit values and other ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-7
FBGIW fittings measuring over 16 inches in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

Item	Reported data			Jan.-Mar.--		Period changes			
	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	Jan.-Mar. 1992-93
U.S. consumption quantity:									
Amount	***	***	***	***	***	-0.5	-3.5	+3.1	-20.6
Producers' share 1/	99.0	98.1	98.3	97.6	89.8	-0.7	-0.9	+0.2	-7.8
Importers' share: 1/									
All sources	1.0	1.9	1.7	2.4	10.2	+0.7	+0.9	-0.2	+7.8
U.S. consumption value:									
Amount	***	***	***	***	***	-17.8	-8.6	-10.1	-18.7
Producers' share 1/	98.3	96.2	90.8	94.9	78.8	-7.5	-2.1	-5.4	-16.1
Importers' share: 1/									
All sources	1.7	3.8	9.2	5.1	21.2	+7.5	+2.1	+5.4	+16.1
U.S. importers' imports from--									
All sources:									
U.S. shipments quantity	***	***	***	***	***	+66.0	+79.2	-7.4	+236.9
U.S. shipments value	***	***	***	***	***	+357.0	+107.6	+120.1	+238.8
Unit value	$***	$***	$***	$***	$***	+175.2	+15.8	+137.6	+0.5
U.S. producers'--									
Average capacity quantity	***	***	***	***	***	+4.5	-2.7	+7.4	-10.4
Production quantity	***	***	***	***	***	-3.7	-11.5	+8.8	-17.8
Capacity utilization 1/	***	***	***	***	***	-3.4	-5.5	+2.1	-6.9
U.S. shipments:									
Quantity	***	***	***	***	***	-1.2	-4.3	+3.3	-27.0
Value	***	***	***	***	***	-24.1	-10.5	-15.2	-32.5
Unit value	$***	$***	$***	$***	$***	+11.2	+2.7	+8.3	+12.3
Export shipments:									
Quantity	0	0	0	0	0	0	0	0	0
Exports/shipments 1/	0	0	0	0	0	0	0	0	0
Value	0	0	0	0	0	0	0	0	0
Unit value	2/	2/	2/	2/	2/	2/	2/	2/	2/
Ending inventory quantity	***	***	***	***	***	-24.4	-8.6	-17.2	-10.3
Inventory/shipments 1/	***	***	***	***	***	-8.3	-1.6	-6.7	+7.1
Production workers	***	***	***	***	***	0	-8.1	+8.8	+9.7
Hours worked (1,000s)	***	***	***	***	***	+3.3	-11.3	+16.4	-3.6
Total comp. ($1,000)	***	***	***	***	***	+10.9	-2.0	+13.2	-0.1
Hourly total compensation	$***	$***	$***	$***	$***	+7.4	+10.4	-2.8	+3.6
Productivity (Lbs./hour)	***	***	***	***	***	-6.5	-0.3	-6.2	-14.5
Unit labor costs	$***	$***	$***	$***	$***	+14.8	+10.8	+3.7	+21.2
Net sales--									
Quantity	***	***	***	***	***	-32.7	-13.3	-22.3	-40.6
Value	***	***	***	***	***	-24.4	-10.7	-15.4	-33.0
Cost of goods sold (COGS)	***	***	***	***	***	-40.4	-8.3	-35.0	-23.5
Gross profit (loss)	***	***	***	***	***	+154.3	-37.2	+305.1	-64.9
SG&A expenses	***	***	***	***	***	-17.5	+6.3	-22.4	-20.3
Operating income (loss)	***	***	***	***	***	+586.0	-146.7	3/	-83.2
Capital expenditures	4/	4/	4/	4/	4/	4/	4/	4/	4/
Unit COGS	$***	$***	$***	$***	$***	-11.5	+5.8	-16.3	+28.8
COGS/sales 1/	***	***	***	***	***	-19.4	+2.4	-21.9	+10.8
Op.income (loss)/sales 1/	***	***	***	***	***	+18.9	-3.6	+22.4	-12.1

1/ 'Reported data' are in percent and 'period changes' are in percentage-point.
2/ Not applicable.
3/ An increase of 1,000 percent or more.
4/ Not available.

Note.--Period changes are derived from the unrounded data. Period changes involving negative period data are positive if the amount of the negativity decreases and negative if the amount of the negativity increases. Unit values and other ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-8
Iron glands: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

Item	Reported data			Jan.-Mar.--		Period changes			
	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	Jan.-Mar. 1992-93
U.S. consumption quantity:									
Amount	***	***	***	***	***	+10.0	-12.6	+25.9	+21.1
Producers' share 1/	97.9	93.1	92.5	92.2	92.0	-5.3	-4.8	-0.6	-0.1
Importers' share: 1/									
China (subject)	0	1.6	4.9	6.3	1.1	+4.9	+1.6	+3.3	-5.2
Other sources	2.1	5.3	2.5	1.5	6.8	+0.4	+3.2	-2.8	+5.3
Total	2.1	6.9	7.5	7.8	8.0	+5.3	+4.8	+0.6	+0.1
U.S. consumption value:									
Amount	***	***	***	***	***	+15.4	-5.9	+22.6	+16.5
Producers' share 1/	97.8	93.7	93.4	93.3	92.8	-4.4	-4.1	-0.2	-0.5
Importers' share: 1/									
China (subject)	0	1.4	4.1	5.1	0.9	+4.1	+1.4	+2.7	-4.2
Other sources	2.2	5.0	2.5	1.5	6.2	+0.3	+2.8	-2.5	+4.7
Total	2.2	6.3	6.6	6.7	7.2	+4.4	+4.1	+0.2	+0.5
U.S. importers' imports from--									
China (subject):									
U.S. shipments quantity	***	***	***	***	***	2/	2/	+289.2	-78.6
U.S. shipments value	***	***	***	***	***	2/	2/	+269.2	-78.8
Unit value	2/	$***	$***	$***	$***	2/	2/	-5.1	-1.2
Ending inventory qty	***	***	***	***	***	2/	2/	-25.0	-92.0
Other sources:									
U.S. shipments quantity	***	***	***	***	***	+29.8	+117.0	-40.2	+447.6
U.S. shipments value	***	***	***	***	***	+30.2	+112.0	-38.6	+373.2
Unit value	$***	$***	$***	$***	$***	+0.4	-2.2	+2.6	-13.6
Ending inventory qty	***	***	***	***	***	-19.4	-79.0	+283.5	+37.7
All sources:									
U.S. shipments quantity	***	***	***	***	***	+285.8	+182.8	+36.4	+23.3
U.S. shipments value	***	***	***	***	***	+243.6	+169.8	+27.3	+25.3
Unit value	$***	$***	$***	$***	$***	-11.0	-4.5	-6.7	+1.6
U.S. producers'--									
Average capacity quantity	***	***	***	***	***	+16.8	+7.2	+9.0	+17.2
Production quantity	24,789	22,423	23,746	5,051	5,555	-4.2	-9.5	+5.9	+10.0
Capacity utilization 1/	***	***	***	***	***	-4.9	-5.8	+0.9	-4.4
U.S. shipments:									
Quantity	***	***	***	***	***	+4.0	-16.9	+25.1	+21.0
Value	***	***	***	***	***	+10.2	-9.9	+22.3	+15.9
Unit value	$***	$***	$***	$***	$***	-6.5	+0.4	-6.8	+6.8
Export shipments:									
Quantity	***	***	***	***	***	+162.5	+250.0	-25.0	+270.0
Exports/shipments 1/	***	***	***	***	***	+0.1	+0.2	-0.1	+0.4
Value	3/	3/	3/	3/	3/	3/	3/	3/	3/
Unit value	3/	3/	3/	3/	3/	3/	3/	3/	3/
Ending inventory quantity	***	***	***	***	***	+30.0	+30.1	4/	-1.1
Inventory/shipments 1/	***	***	***	***	***	+13.5	+25.7	-12.2	-15.8
Production workers	267	235	225	205	256	-15.7	-12.0	-4.3	+24.9
Hours worked (1,000s)	598	626	653	154	164	+9.2	+4.7	+4.3	+6.5
Total comp. ($1,000)	9,306	9,196	9,425	2,178	2,455	+1.3	-1.2	+2.5	+12.7
Hourly total compensation	$15.56	$14.69	$14.43	$14.14	$14.97	-7.3	-5.6	-1.7	+5.8
Productivity (Lbs./hour)	41.5	35.8	36.4	32.8	33.9	-12.3	-13.6	+1.5	+3.3
Unit labor costs	$0.38	$0.41	$0.40	$0.43	$0.44	+5.7	+9.2	-3.2	+2.5
Net sales--									
Quantity	***	***	***	***	***	+5.3	-14.4	+23.0	+16.1
Value	10,667	11,351	10,852	2,183	2,900	+1.7	+6.4	-4.4	+32.8
Cost of goods sold (COGS)	***	***	***	***	***	+6.9	+6.3	+0.6	+28.4
Gross profit (loss)	***	***	***	***	***	-115.9	+9.8	-114.5	+613.3
SG&A expenses	***	***	***	***	***	+17.3	+40.4	-16.4	+23.8
Operating income (loss)	(95)	(270)	(707)	(137)	(74)	-644.2	-184.2	-161.9	+46.0
Capital expenditures	***	***	***	***	***	-73.1	+306.6	-93.4	-60.1
Unit COGS	$***	$***	$***	$***	$***	+1.5	+24.2	-18.2	+10.6
COGS/sales 1/	***	***	***	***	***	+4.8	-0.1	+5.0	-3.3
Op.income (loss)/sales 1/	(0.9)	(2.4)	(6.5)	(6.3)	(2.6)	-5.6	-1.5	-4.1	+3.7

1/ 'Reported data' are in percent and 'period changes' are in percentage-point.
2/ Not applicable.
3/ Not available.
4/ A decrease of less than 0.05 percent.

Note.--Period changes are derived from the unrounded data. Period changes involving negative period data are positive if the amount of the negativity decreases and negative if the amount of the negativity increases. Because of rounding, figures may not add to the totals shown. Unit values and other ratios are calculated using data of firms supplying both numerator and denominator information. Part-year inventory ratios are annualized.

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-9
Ductile iron glands for use with CDIW fittings measuring 16 inches and under in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
*	*	*	*	*	*	*			

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-10
Ductile iron glands for use with CDIW fittings measuring over 16 inches in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
*	*	*	*	*	*	*			

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-11
Ductile or gray iron glands for use with waterworks fitting other than CDIW fittings: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
*	*	*	*	*	*	*			

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-12
Gland packs: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=units, value=1,000 dollars, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
*	*	*	*	*	*	*			

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-13
Gland packs for use with CDIW fittings measuring 16 inches and under in nominal diameter: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=units, value=1,000 dollars, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
*	*	*	*	*	*	*			

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-14
Gland packs for use with full-bodied waterworks fittings: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=units, value=1,000 dollars, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
*	*	*	*	*	*	*			

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-15
Tee-head bolts: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
*	*	*	*	*	*	*			

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

Table D-16
SBR gaskets: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

(Quantity=1,000 pounds, value=1,000 dollars, unit values, unit labor costs, and unit COGS are per pound, period changes=percent, except where noted)

	Reported data					Period changes			
				Jan.-Mar.--					Jan.-Mar.
Item	1990	1991	1992	1992	1993	1990-92	1990-91	1991-92	1992-93
*	*	*	*	*	*	*			

Source: Compiled from data submitted in response to questionnaires of the U.S. International Trade Commission.

APPENDIX E

IMPACT OF IMPORTS OF CDIW FITTINGS AND IRON GLANDS AND/OR GLAND PACKS FROM THE PEOPLE'S REPUBLIC OF CHINA ON U.S. PRODUCERS' GROWTH, INVESTMENT, ABILITY TO RAISE CAPITAL, AND EXISTING DEVELOPMENT AND PRODUCTION EFFORTS

The Commission requested U.S. producers to describe and explain the actual and negative effects, if any, of imports of CDIW fittings and/or iron glands and/or gland packs from the People's Republic of China on their growth, investment, ability to raise capital, or existing development and production efforts (including efforts to develop a derivative or improved version of their product). Producers were also asked whether the scale of capital investments undertaken has been influenced by the presence of imports of these products from the People's Republic of China. Their responses are shown below:

ACTUAL NEGATIVE EFFECTS

CDIW Fittings

American

"***".

Clow

"***."

Griffin

"***."

Russell

"***."

Tyler

"***."

Union

"***."

US Pipe

"***."

Iron Glands and/or Gland Packs

American

"***."

Packaging Systems

"***."

Russell

"***."

Tyler

"***."

Union

"***."

US Pipe

"***."

ANTICIPATED NEGATIVE EFFECTS

CDIW Fittings

American

"***."

Clow

"***."

Griffin

"***."

Russell

"***."

Tyler

"***."

Union

"***."

US Pipe

"***."

Iron Glands and/or Gland Packs

American

"***."

Packaging Systems

"***."

Russell

"***."

Tyler

"***."

Union

"***."

US Pipe

"***."

INFLUENCE OF IMPORTS ON CAPITAL INVESTMENT

CDIW Fittings

American

"***."

Clow

"***."

Griffin

"***."

Russell

"***."

Tyler

"***."

Union

"***."

US Pipe

"***."

Iron Glands and/or Gland Packs

American

"***."

Packaging Systems

"***."

Russell

"***."

Tyler

"***."

Union

"***."

US Pipe

"***."