Certain Biaxial Integral Geogrid Products from China

Investigation Nos. 701-TA-554 and 731-TA-1309 (Preliminary)

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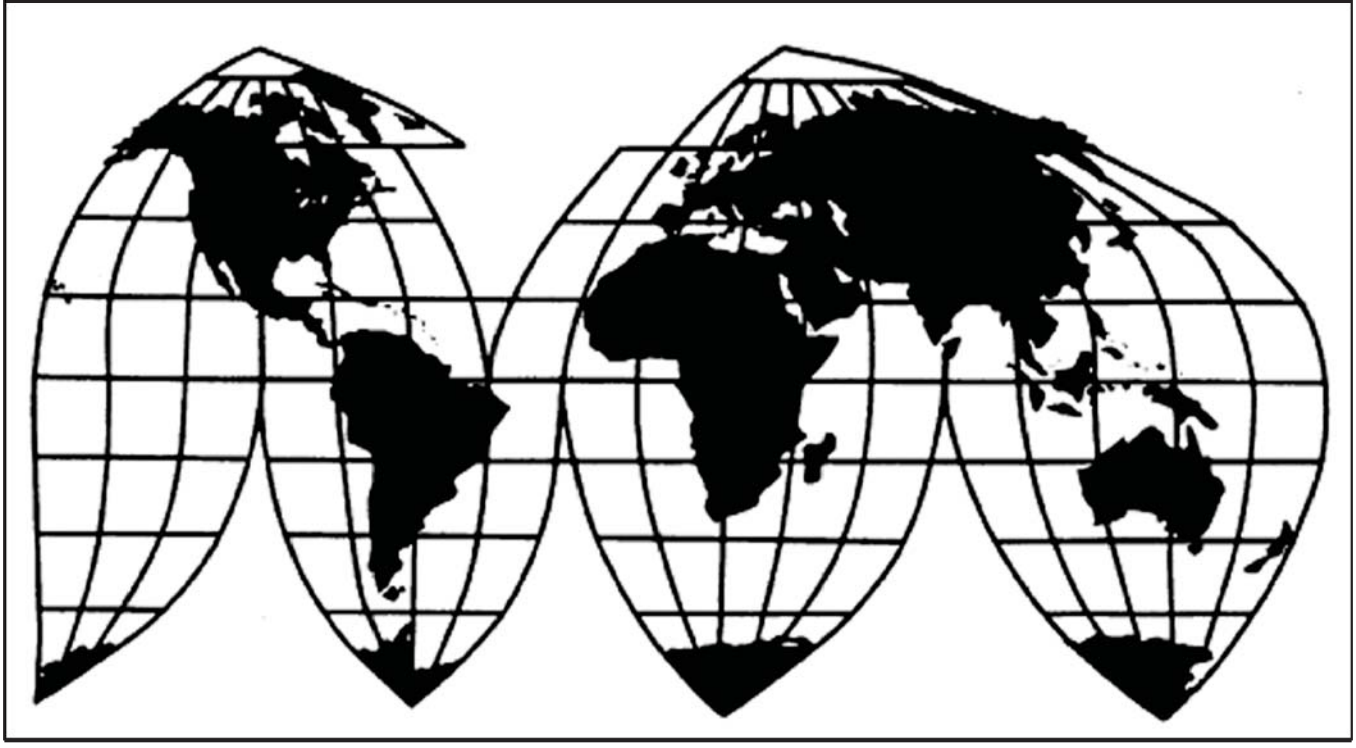
U.S. International Trade Commission



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Note.—Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted.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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-554 and 731-TA-1309 (Preliminary)

Certain Biaxial Integral Geogrid Products from China

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of certain biaxial integral geogrid products from China, provided for in subheading 3926.90.99 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value ("LTFV") and that are allegedly subsidized by the government of China.

COMMENCEMENT OF FINAL PHASE INVESTIGATIONS

Pursuant to section 207.18 of the Commission's rules, the Commission also gives notice of the commencement of the final phase of its investigations. The Commission will issue a final phase notice of scheduling, which will be published in the *Federal Register* as provided in section 207.21 of the Commission's rules, upon notice from the Department of Commerce ("Commerce") of affirmative preliminary determinations in the investigations under sections 703(b) or 733(b) of the Act, or, if the preliminary determinations are negative, upon notice of affirmative final determinations in those investigations under sections 705(a) or 735(a) of the Act. Parties that filed entries of appearance in the preliminary phase of the investigations need not enter a separate appearance for the final phase of the investigations. Industrial users, and, if the merchandise under investigation is sold at the retail level, representative consumer organizations have the right to appear as parties in Commission antidumping and countervailing duty investigations. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigations.

BACKGROUND

On January 13, 2016, Tensar Corporation, Morrow, Georgia filed a petition with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of LTFV and subsidized imports of certain biaxial integral geogrid products from China. Accordingly, effective January 13, 2016, the Commission, pursuant to sections 703(a) and 733(a) of the Tariff Act of 1930 (19 U.S.C. §§

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

1671b(a) and 1673b(a)), instituted countervailing duty investigation No. 701-TA-554 and antidumping duty investigation No. 731-TA-1309 (Preliminary).

Notice of the institution of the Commission's investigations and of a public conference 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 January 20, 2016 (81 FR 3157). The conference was held in Washington, DC, on February 3, 2016, 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 the preliminary phase of these investigations, we find that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of biaxial integral geogrid products ("biaxial geogrids") from China that are allegedly sold in the United States at less than fair value ("LTFV") and that are allegedly subsidized by the government of China.

I. The Legal Standard for Preliminary Determinations

The legal standard for preliminary antidumping and countervailing duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determinations, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury, or that the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.[1] In applying this standard, the Commission weighs the evidence before it and determines whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation."[2]

II. Background

Tensar Corporation ("Tensar"), a domestic producer of biaxial geogrids, filed petitions in these investigations on January 13, 2016, alleging that a domestic industry in the United States was injured and threatened with material injury by reason of imports of biaxial geogrids that were subsidized by the government of China and sold at LTFV. Tensar appeared at the staff conference and submitted a postconference brief.

Several respondent entities participated in these investigations: Hanes Companies Inc., Hill Country Site Supply LLC, and Pacific GeoSource Inc. dba Alliance Geosynsthetics Inc. (collectively, "respondents"). Respondents are importers, purchasers, and distributors of the subject merchandise. They appeared at the staff conference and jointly submitted a postconference brief.

U.S. industry data are based on the questionnaire responses of one domestic producer, Tensar, which accounted for almost all U.S. production of biaxial geogrids in 2014.[3] U.S. import data are based on questionnaire responses from 13 U.S. importers, accounting for the vast

[1] 19 U.S.C. §§ 1671b(a), 1673b(a) (2000); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-04 (Fed. Cir. 1986); *Aristech Chem. Corp. v. United States, 2*0 CIT 353, 354-55 (1996). No party argues that the establishment of an industry in the United States is materially retarded by the allegedly unfairly traded imports.

[2] American Lamb Co., 785 F.2d at 1001; see also Texas Crushed Stone Co. v. United States, 35 F.3d 1535, 1543 (Fed. Cir. 1994).

[3] Confidential Report ("CR") at III-1, Public Report ("PR") at III-1. A small domestic producer, Tenax, provided a questionnaire response but did not provide complete trade, financial, or pricing data. *Id*.

majority of total subject imports during the January 2012-September 2015 period of investigation ("POI").[4] The Commission received responses to its questionnaires from two producers of subject merchandise accounting for approximately *** percent of production of subject merchandise from China in 2014.[5]

III. Domestic Like Product

A. In General

In determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the "domestic like product" and the "industry."[6] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines the relevant domestic industry as the "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[7] In turn, the Tariff Act defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation."[8]

The decision regarding the appropriate domestic like product(s) in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[9] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[10] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[11] Although the Commission must accept

[4] CR at I-5, PR at I-3.

[5] CR at VII-3-4, PR at VII-3.

[6] 19 U.S.C. § 1677(4)(A).

[7] 19 U.S.C. § 1677(4)(A).

[8] 19 U.S.C. § 1677(10).

[9] See, e.g., Cleo Inc. v. United States, 501 F.3d 1291, 1299 (Fed. Cir. 2007); NEC Corp. v. Department of Commerce, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); Nippon Steel Corp. v. United States, 19 CIT 450, 455 (1995); Torrington Co. v. United States, 747 F. Supp. 744, 749 n.3 (Ct. Int'l Trade 1990), aff'd, 938 F.2d 1278 (Fed. Cir. 1991) ("every like product determination 'must be made on the particular record at issue' and the 'unique facts of each case'"). The Commission generally considers a number of factors including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. See Nippon, 19 CIT at 455 n.4; Timken Co. v. United States, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

[10] *See*, *e.g.*, S. Rep. No. 96-249 at 90-91 (1979).

[11] *See*, *e.g.*, *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49*; see also* S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in "such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not 'like' each other, nor should the definition of 'like' (Continued…)

Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value,[12] the Commission determines what domestic product is like the imported articles Commerce has identified.[13] The Commission may, where appropriate, include domestic articles in the domestic like product in addition to those described in the scope.[14]

B. Product Description

In its notices of initiation, Commerce defined the imported merchandise within the scope of these investigations as follows:

> Biaxial integral geogrid products are a polymer grid or mesh material (whether or not finished, slit, cut-to-length, attached to woven or non-woven fabric or sheet material, or packaged) in which four-sided openings in the form of squares, rectangles, rhomboids, diamonds, or other four-sided figures predominate. The products covered have integral strands that have been stretched to induce molecular orientation into the material (as evidenced by the strands being thinner toward the middle between the junctions than at the junctions themselves) constituting the sides of the openings and integral junctions where the strands intersect. The scope includes products in which four-sided figures predominate whether or not they also contain additional strands intersecting the four-sided figures and whether or not the inside corners of the four-sided figures are rounded off or not sharp angles. As used herein, the term "integral" refers to strands and junctions that are homogenous with each other. The products covered have a tensile strength of greater than 5 kilonewtons per meter ("kN/m") according to American Society for

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(…Continued)
product' be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.").

[12] *See*, *e.g.*, *USEC, Inc. v. United States*, 34 Fed. App'x 725, 730 (Fed. Cir. 2002) ("The ITC may not modify the class or kind of imported merchandise examined by Commerce."); *Algoma Steel Corp. v. United States,* 688 F. Supp. 639, 644 (Ct. Int'l Trade 1988), *aff'd*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

[13] *Hosiden Corp. v. Advanced Display Mfrs.,* 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds defined by Commerce); *Cleo*, 501 F.3d at 1298 n.1 ("Commerce's {scope} finding does not control the Commission's {like product} determination."); *Torrington*, 747 F. Supp. at 748-52 (affirming the Commission's determination defining six like products in investigations where Commerce found five classes or kinds).

[14] *See*, *e.g.*, *Pure Magnesium from China and Israel*, Inv. Nos. 701-TA-403 and 731-TA-895-96 (Final), USITC Pub. 3467 at 8 n.34 (Nov. 2001); *Torrington,* 747 F. Supp. at 748-49 (holding that the Commission is not legally required to limit the domestic like product to the product advocated by the petitioner, co-extensive with the scope).

> Testing and Materials ("ASTM") Standard Test Method D6637/D6637M in any direction and average overall flexural stiffness of more than 100,000 milligram-centimeter according to the ASTM D7748/D7748M Standard Test Method for Flexural Rigidity of Geogrids, Geotextiles and Related Products, or other equivalent test method standards.
> Subject merchandise includes material matching the above description that has been finished, packaged, or otherwise further processed in a third country, including by trimming, slitting, coating, cutting, punching holes, stretching, attaching to woven or non-woven fabric or sheet material, or any other finishing, packaging, or other further processing that would not otherwise remove the merchandise from the scope of the investigations if performed in the country of manufacture of the biaxial integral geogrid.
>
> The products subject to the scope are currently classified in the Harmonized Tariff Schedule of the United States ("HTSUS") under the following subheading: 3926.90.9995. Subject merchandise may also enter under subheadings 3920.20.0050 and 3925.90.0000. The HTSUS subheadings set forth above are provided for convenience and U.S. Customs purposes only. The written description of the scope is dispositive.[15]

A biaxial geogrid is a single, homogeneous piece of plastic that has been punched with holes and stretched until the holes attain the desired shape/size and the resulting net-like grid material has the desired tensile strength.[16] Geogrids are used primarily for earth reinforcement and stabilization underneath paved and unpaved roads.[17] Specifically, they are installed as part of the stone and rock ("aggregate") foundation and used to hold the aggregate in place and provide additional stabilization, resulting in the need for less aggregate in a road construction project.[18] Geogrids are also used in certain wall systems, marine mattress, and other surface stabilization and reinforcement applications.[19] Up until May 2012, domestic producer and petitioner, Tensar, held the patent for biaxial geogrids in the U.S. market.

Biaxial geogrids are produced by melting polypropylene pellets and extruding them into a sheet. The sheet is passed through a punch press which makes holes in it, and then through a machine called the "orienter" which heats the punched sheet and pulls it in two directions. As

[15] *Certain Biaxial Integral Geogrid Products from the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*, 81 Fed. Reg. 7755 (Feb. 16, 2016) ("Commerce AD Initiation"); *Certain Biaxial Integral Geogrid Products from the People's Republic of China: Initiation of Countervailing Duty Investigation*, 81 Fed. Reg. 7745 (Feb. 16, 2016) ("Commerce CVD Initiation").

[16] CR at I-8-9, PR at I-7.

[17] CR at I-9-10, PR at I-7-8.

[18] CR at I-9-10, PR at I-7-8.

[19] CR at I-9, PR at I-7.

the material is stretched, it lengthens and widens the final product and also aligns the molecules in a homogeneous chain-like pattern which increases the strength of the product.[20] The product is then cooled, cut to length, spooled in rolls, and prepared for shipment.[21] The primary raw material used in biaxial geogrid production is polypropylene resin, while the minor component is black master batch used for color and prevention of ultraviolet light degradation.[22]

The biaxial geogrid products described in the scope are oriented in two directions – longitudinal and transverse – and are thus composed of a series of quadrangular holes.[23] Triaxial geogrids, on the other hand, have webbing oriented along three axes which produces triangular shaped holes.[24] Because the scope of these investigations is limited to geogrids in "which four-sided openings in the form of squares, rectangles, rhomboids, diamonds, or other four-sided figures predominate," triaxial geogrids do not fall within the scope.

C. Arguments of the Parties

Petitioner's Arguments. Tensar asserts that the Commission should find a single domestic like product consisting of biaxial geogrids and that does not include triaxial geogrids.[25] With regard to physical characteristics, it contends that aside from being a different shape, triaxial geogrids have a "high degree of radial stiffness throughout the full 360 degrees of the geogrid plane . . . {and} also have a thicker rib structure and different profile than the strands comprising biaxial integral geogrids."[26] Tensar argues that triaxial geogrids are treated as different products by state and local government agencies that establish specifications for construction projects and that many state specifications do not provide for the use of triaxial geogrids, treat them as separate from biaxial geogrids, or expressly exclude triaxial geogrids.[27] Tensar contends that triaxial geogrids may not be substituted for biaxial geogrids in a project without significant redesign.[28]

Tensar argues that biaxial and triaxial geogrids are sold and marketed differently. It contends that while biaxial geogrids are available for private label production, triaxial geogrids are not because they are currently under a patent held by Tensar.[29] It contends that production of triaxial geogrids is different from production of biaxial geogrids in that it requires

[20] CR at I-10, PR at I-8.

[21] CR at I-11, PR at I-8.

[22] CR at V-1, PR at V-1.

[23] CR at I-9, PR at I-7; Petitioner Postconference Br. at 8-9.

[24] CR at I-13, PR at I-10; Petitioner Postconference Br. at 8-9.

[25] Tensar currently holds the patent on triaxial geogrids, under the name TriAx. CR at I-16, PR at I-11. TriAx has triangular shaped openings. CR at I-11, PR at I-9.

[26] Petitioner Postconference Br. at 9.

[27] Petitioner Postconference Br. at 12; Tr. at 76 (Gerrish). Tensar stated at the staff conference that it hopes and anticipates that every state will eventually include triaxial geogrids in its specifications. Tr. at 64 (Gee).

[28] Petitioner Postconference Br. at 13.

[29] Petitioner Postconference Br. at 14-15.

"substantial retooling" of equipment used and involves machinery that is not used for production of biaxial geogrids.[30] Tensar argues that triaxial geogrids are priced significantly higher than biaxial geogrids.[31]

Respondents' Arguments. Respondents assert that the domestic like product should include triaxial geogrids because triaxial and biaxial geogrids have the same use.[32] They argue that Tensar conceded at the staff conference that triaxial and biaxial geogrids are produced on the same production lines and that Tensar views biaxial and triaxial geogrids as interchangeable, citing Tensar's effort to transition the market from biaxial to triaxial geogrid.[33] They observe that both products are installed in the same manner and that Tensar uses the same installation guide and design software for both products.[34] Respondents argue that numerous examples exist showing no project redesign when triaxial and biaxial geogrids are substituted.[35] They observe that the channels of distribution for biaxial and triaxial geogrids are the same.[36]

D. Domestic Like Product Analysis

Based on the following analysis, we define a single domestic like product consisting of biaxial and triaxial geogrids.

Physical Characteristics and Uses. We find that biaxial and triaxial geogrids are used in the same applications and share many of the same physical characteristics and uses. We acknowledge, as petitioner emphasizes, that biaxial and triaxial geogrids have different appearances. Biaxial geogrids are comprised of rectangular apertures whereas triaxial geogrids have triangular apertures. Notwithstanding this distinction, they are produced from the same raw materials and their end uses are essentially identical. Both biaxial and triaxial geogrids are integral plastic grids that "provide soil reinforcement" in road construction projects.[37] Tensar argues that the aperture geometry of the junctions in triaxial geogrids results in greater strength and stiffness than that of biaxial geogrids but its own installation guide concedes that analogous differences exist between the different types of biaxial geogrids.[38]

Manufacturing Facilities, Production Processes and Employees. Tensar produces biaxial

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[30] Petitioner Postconference Br. at 15, 17-18.

[31] Petitioner Postconference Br. at 17.

[32] Respondents' Postconference Br. at 3-4.

[33] Respondents' Postconference Br. at 8-9.

[34] Respondents' Postconference Br. at 9.

[35] Tr. at 137 (Dowdell).

[36] Respondents' Postconference Br. at 13.

[37] Respondents' Postconference Br. at Exhibit 6 (Tensar TriAx and Biaxial Geogrids Installation Guide) ("Tensar Installation Guide").

By contrast, uniaxial geogrid, which resembles parallel strips of plastic, does not have the same intersections as biaxial or triaxial geogrid, and is used primarily for wall stabilization purposes. Tr. at 49 (Gerrish).

[38] Tensar Installation Guide at 3 ("BXTYPE1 and BXTYPE2 Geogrids have a similar appearance, but different structural characteristics").

and triaxial geogrids in the same facility. Biaxial and triaxial geogrids both start from the same raw materials, specifically polypropylene pellets, with a small amount of black master batch for coloring and UV light protection.[39] The polypropylene sheets then proceed to a machine ("puncher") which punches holes in the sheets.[40] The punched sheets are then heated and stretched in an "orienter" machine.[41] At this point, evidence on the record is mixed regarding relevant distinctions between the production of biaxial and triaxial geogrids.[42] Tensar states that its production of triaxial geogrids utilizes beveled rollers that are not used in production of biaxial geogrids,[43] but respondents counter that such equipment has been employed for use on non-triaxial geogrids for more than 30 years and is used at the winding stage and not at the production stage.[44] Respondents also observe that Tensar's patent on triaxial geogrids states that triaxial geogrids are produced by "biaxially orienting" the holes in the geogrid material and that therefore triaxial geogrids are a form of biaxial geogrids.[45]

Channels of Distribution. All geogrids, whether biaxial or triaxial, are sold primarily to distributors. Tensar sells its branded biaxial geogrids and all triaxial geogrids through exclusive, regional distributors in all regions of the United States.[46] In addition to its own brand of biaxial geogrids, Tensar sells biaxial geogrids, but not triaxial geogrids, for resale under private label.[47]

Interchangeability. The parties dispute the degree of interchangeability between biaxial and triaxial geogrids. Although Tensar contends that biaxial and triaxial geogrids cannot be substituted in a project without substantial redesign, the record indicates that Tensar has marketed the two forms as interchangeable to its customers.[48] Additionally, the record shows that Tensar has perceived the two forms as interchangeable. Specifically, in 2010, Tensar announced a strategy to "transition all of our BX {biaxial} markets to TriAx."[49]

Biaxial and triaxial geogrid appear to be largely interchangeable at the design stage of a project.[50] By contrast, information on the record indicates certain states and municipalities have specifications for public projects that treat biaxial and triaxial geogrids differently.[51]

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[39] CR at I-10, PR at I-8.

[40] CR at I-10, PR at I-8.

[41] CR at I-10-11, PR at I-8.

[42] Tr. at 59 (Gerrish); *cf.* Respondents' Postconference Br. at 6-8.

[43] Tr. at 60 (Gee).

[44] Respondents' Postconference Br. at Exhibit 3, No.11.

[45] Respondents' Postconference Br. at 4-5.

[46] CR at I-16, PR at I-12.

[47] CR at I-16, PR at I-11-12.

[48] Respondents' Postconference Br. at Exhibit 4 (Letter from Joseph Cavanaugh, August 1, 2009)("any substitution of BX {biaxial geogrid} Type 1 (BX1100) and/or BX Type 2 (BX1200) with TX160 {triaxial geogrid} for unpaved roadway construction and subgrade improvement applications can and should be done with complete confidence that TX160 will meet or exceed the performance of BX Type 1 (BX1100) and/or BX Type 2 (BX1200.").

[49] Respondents' Postconference Br. at Exhibit 2 (Letter from Tim Oliver).

[50] *See* Petitioner Postconference Br. at 13; Respondents' Postconference Br. at 10-11. *Cf*. Petitioner Postconference Br. at 18.

[51] *See* Petitioner Postconference Br. at 12.

Producer and Customer Perceptions. Tensar states that it views biaxial and triaxial geogrids as separate products. Nonetheless, as stated earlier, Tensar's marketing strategy treats biaxial and triaxial geogrids as interchangeable and the two products have the same Tensar installation guide.[52] Information in the record on customer perceptions is mixed. Respondents state that customers treat triaxial geogrids and biaxial geogrids as different varieties of the same general type of product.[53] One distributor stated that its customers do not recognize a difference between the two, but that sometimes the project engineer requests triaxial geogrids and will not allow biaxial geogrids as a substitute.[54]

Price. The average unit values ("AUVs") for triaxial geogrids were approximately *** as much as the AUVs for biaxial geogrids.[55] The record suggests that this is due in part to the patent that currently controls production of triaxial geogrids, and also because Tensar supplies additional services for purchasers of TriAx than it does for its biaxial geogrid customers.[56]

Conclusion. Based on the record of the preliminary phase of these investigations, we find that there is no clear dividing line between biaxial and triaxial geogrids. Both products are made from the same raw materials, produced in the same facilities, frequently sold through the same channels of distribution, and are used the same way in road construction. The two products appear to be largely interchangeable, at least at the design stage of a construction project, but some states and municipalities treat them differently. We find that, based on the current record, there are more similarities than differences between the biaxial products within the scope definition and the triaxial products that are outside of the scope. We therefore define the domestic like product as consisting of biaxial geogrids and triaxial geogrids for purposes of our preliminary determinations.[57]

IV. Domestic Industry

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[58] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

We must determine whether any producer of the domestic like product should be

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[52] Respondents' Postconference Br. at Exhibit 2 (Letter from Tim Oliver) and 4 (Letter from Joseph Cavanaugh, August 1, 2009).

[53] Respondents' Postconference Br. at 10-11.

[54] CR at I-15-16, PR at I-11.

[55] CR at I-16, PR at I-12.

[56] Tr. at 37 (Gee) ("We also provide a range of product support and services for TriAx that is not offered with our biaxial geogrids").

[57] In any final phase of these investigations, we intend to re-examine this issue and to seek further information concerning the domestic like product definition including the manufacturing processes, purchaser perceptions, and technical distinctions between biaxial and triaxial geogrids.

[58] 19 U.S.C. § 1677(4)(A).

excluded from the domestic industry pursuant to Section 771(4)(B) of the Tariff Act. This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise or which are themselves importers.[59] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[60]

Tensar potentially qualifies for exclusion from the domestic industry as a related party because it imported subject merchandise produced by its affiliate in China to the United States in 2012.[61] Tensar imported *** square yards of subject merchandise to the United States in 2012, but did not report importing any subject merchandise during the remainder of the POI.[62]

Tensar is the petitioner in this case, the largest domestic producer of biaxial geogrids, and was the only domestic producer to submit usable data. It accounted for *** percent of domestic production from 2012 to 2014.[63] The ratio of its imports of subject merchandise to U.S. production was *** percent in 2012, and 0.0 percent for the remainder of the POI.[64] We conclude that Tensar's primary interest is in domestic production. Consequently, appropriate circumstances do not exist to exclude it from the domestic industry.

In light of these considerations and our definition of the domestic like product, we define the domestic industry as comprising of all domestic producers of biaxial geogrids and triaxial geogrids.

V. Negligible Imports

Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than 3 percent of all such merchandise imported into the United States during the most recent 12 months for

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[59] *See Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd without opinion*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), *aff'd mem.,* 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987).

[60] The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

(1) the percentage of domestic production attributable to the importing producer;

(2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market);

(3) whether inclusion or exclusion of the related party will skew the data for the rest of the industry;

(4) the ratio of import shipments to U.S. production for the imported product; and

(5) whether the primary interest of the importing producer lies in domestic production or importation. *Changzou Trina Solar Energy Co. v.* USITC, Slip. Op. 15-84 at 27 (Ct. Int'l. Trade Aug. 7, 2015); see *also Torrington Co. v. United States*, 790 F. Supp. at 1168.

[61] CR/PR at Table III-5.

[62] CR/PR at Table III-5.

[63] Derived from CR/PR at Table C-3 and questionnaire response of Tenax.

[64] Derived from CR/PR at Table III-5 and Table C-3.

which data are available preceding the filing of the petition shall be deemed negligible.[65]

Available data, based on questionnaire responses, indicate that subject imports from China exceed the requisite 3 percent statutory negligibility threshold. In the most recent 12-month period prior to the filing of the petition for which data are available, U.S. imports from China accounted for 100.0 percent of total imports of biaxial geogrids by quantity.[66] We consequently find that imports from China are not negligible.

VI. Reasonable Indication of Material Injury by Reason of Subject Imports

A. Legal Standard

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[67] In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[68] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[69] In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[70] No single factor is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[71]

Although the statute requires the Commission to determine whether there is a reasonable indication that the domestic industry is "materially injured by reason of" unfairly traded imports,[72] it does not define the phrase "by reason of," indicating that this aspect of the

[65] 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)).

[66] CR at IV-5, PR at IV-4.

[67] 19 U.S.C. §§ 1671b(a), 1673b(a). The Trade Preferences Extension Act of 2015, Pub. L. 114-27, amended the provisions of the Tariff Act pertaining to Commission determinations of reasonable indication of material injury and threat of material injury by reason of subject imports in certain respects. We have applied these amendments here.

[68] 19 U.S.C. § 1677(7)(B). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each {such} factor ... {a}nd explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[69] 19 U.S.C. § 1677(7)(A).

[70] 19 U.S.C. § 1677(7)(C)(iii).

[71] 19 U.S.C. § 1677(7)(C)(iii).

[72] 19 U.S.C. §§ 1671b(a), 1673b(a).

injury analysis is left to the Commission's reasonable exercise of its discretion.[73] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[74]

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[75] In performing its examination, however, the Commission need not isolate the injury caused by other factors from injury caused by unfairly traded imports.[76] Nor does the

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[73] *Angus Chemical Co. v. United States*, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) ("{T}he statute does not 'compel the commissioners' to employ {a particular methodology}."), *aff'g* 944 F. Supp. 943, 951 (Ct. Int'l Trade 1996).

[74] The Federal Circuit, in addressing the causation standard of the statute, has observed that "{a}s long as its effects are not merely incidental, tangential, or trivial, the foreign product sold at less than fair value meets the causation requirement." *Nippon Steel Corp. v. USITC*, 345 F.3d 1379, 1384 (Fed. Cir. 2003). This was re-affirmed in *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 873 (Fed. Cir. 2008), in which the Federal Circuit, quoting *Gerald Metals, Inc. v. United States*, 132 F.3d 716, 722 (Fed. Cir. 1997), stated that "this court requires evidence in the record 'to show that the harm occurred "by reason of" the LTFV imports, not by reason of a minimal or tangential contribution to material harm caused by LTFV goods.'" *See also Nippon Steel Corp. v. United States*, 458 F.3d 1345, 1357 (Fed. Cir. 2006); *Taiwan Semiconductor Industry Ass'n v. USITC*, 266 F.3d 1339, 1345 (Fed. Cir. 2001).

[75] SAA, H.R. Rep. 103-316, Vol. I at 851-52 (1994) ("{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports."); S. Rep. 96-249 at 75 (1979) (the Commission "will consider information which indicates that harm is caused by factors other than less-than-fair-value imports."); H.R. Rep. 96-317 at 47 (1979) ("in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;" those factors include "the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry"); *accord Mittal Steel*, 542 F.3d at 877.

[76] SAA at 851-52 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports."); *Taiwan Semiconductor Industry Ass'n* , 266 F.3d at 1345. ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports ... . Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports." (emphasis in original)); *Asociacion de Productores de Salmon y Trucha*

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"by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[77] It is clear that the existence of injury caused by other factors does not compel a negative determination.[78]

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports" and the Commission "ensure{s} that it is not attributing injury from other sources to the subject imports."[79] [80] Indeed, the Federal Circuit has examined and affirmed various

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de Chile AG v. United States, 180 F. Supp. 2d 1360, 1375 (Ct. Int'l Trade 2002) ("{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury" or make "bright-line distinctions" between the effects of subject imports and other causes.); *see also Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that "{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e*., it is not an 'other causal factor,' then there is nothing to further examine regarding attribution to injury"), *citing Gerald Metals,* 132 F.3d at 722 (the statute "does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.").

[77] S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

[78] *See Nippon*, 345 F.3d at 1381 ("an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the 'dumping' need not be the sole or principal cause of injury.").

[79] *Mittal Steel*, 542 F.3d at 877-78; *see also id.* at 873 ("While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured 'by reason of' subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.") *citing United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its decision in *Swiff-Train v. United States*, 792 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission's causation analysis as comporting with the Court's guidance in *Mittal*.

[80] Vice Chairman Pinkert and Commissioner Kieff do not join this paragraph or the following three paragraphs. They point out that the Federal Circuit, in *Bratsk*, 444 F.3d 1369, and *Mittal Steel*, held that the Commission is *required*, in certain circumstances when analyzing present material injury, to consider a particular issue with respect to the role of nonsubject imports, without reliance upon presumptions or rigid formulas. The Court has not prescribed a specific method of exposition for this consideration. *Mittal Steel* explains as follows:

> What *Bratsk* held is that "where commodity products are at issue and fairly traded, price competitive, non-subject imports are in the market," the Commission would not fulfill its obligation to consider an important aspect of the problem if it failed to consider whether non-subject or non-LTFV imports would have replaced LTFV subject imports during the period of investigation without a continuing benefit to the domestic industry. 444 F.3d at 1369. Under those circumstances, *Bratsk* requires the Commission to consider whether replacement of the LTFV subject imports might have occurred during

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Commission methodologies and has disavowed "rigid adherence to a specific formula."[81]

The Federal Circuit's decisions in *Gerald Metals*, *Bratsk,* and *Mittal Steel* all involved cases in which the relevant "other factor" was the presence in the market of significant volumes of price-competitive nonsubject imports. The Commission interpreted the Federal Circuit's guidance in *Bratsk* as requiring it to apply a particular additional methodology following its finding of material injury in cases involving commodity products and a significant market presence of price-competitive nonsubject imports.[82] The additional "replacement/benefit" test looked at whether nonsubject imports might have replaced subject imports without any benefit to the U.S. industry. The Commission applied that specific additional test in subsequent cases, including the *Carbon and Certain Alloy Steel Wire Rod from Trinidad and Tobago* determination that underlies the *Mittal Steel* litigation.

Mittal Steel clarifies that the Commission's interpretation of *Bratsk* was too rigid and makes clear that the Federal Circuit does not require the Commission to apply an additional test nor any one specific methodology; instead, the court requires the Commission to have "evidence in the record 'to show that the harm occurred 'by reason of' the LTFV imports,'" and requires that the Commission not attribute injury from nonsubject imports or other factors to subject imports.[83] Accordingly, we do not consider ourselves required to apply the replacement/benefit test that was included in Commission opinions subsequent to *Bratsk*.

The progression of *Gerald Metals*, *Bratsk*, and *Mittal Steel* clarifies that, in cases involving commodity products where price-competitive nonsubject imports are a significant factor in the U.S. market, the Court will require the Commission to give full consideration, with adequate explanation, to non-attribution issues when it performs its causation analysis.[84]

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial

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(…Continued)

> the period of investigation, and it requires the Commission to provide an explanation of its conclusion with respect to that factor.

542 F.3d at 878.

[81] *Nucor Corp. v. United States*, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); *see also Mittal Steel*, 542 F.3d at 879 ("*Bratsk* did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was 'by reason' of subject imports.").

[82] *Mittal Steel*, 542 F.3d at 875-79.

[83] *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 875-79 & n.2 (recognizing the Commission's alternative interpretation of *Bratsk* as a reminder to conduct a non-attribution analysis).

[84] To that end, after the Federal Circuit issued its decision in *Bratsk*, the Commission began to present published information or send out information requests in the final phase of investigations to producers in nonsubject countries that accounted for substantial shares of U.S. imports of subject merchandise (if, in fact, there were large nonsubject import suppliers). In order to provide a more complete record for the Commission's causation analysis, these requests typically seek information on capacity, production, and shipments of the product under investigation in the major source countries that export to the United States. The Commission plans to continue utilizing published or requested information in the final phase of investigations in which there are substantial levels of nonsubject imports.

evidence standard.[85] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[86]

B. Conditions of Competition and the Business Cycle

The following conditions of competition inform our analysis of whether there is a reasonable indication of material injury by reason of subject imports.

1. Demand Conditions

Demand for biaxial and triaxial geogrids depends on the demand for the downstream products in which they are used, primarily road construction in both the public and private sectors.[87] Consequently, the major demand drivers are public spending on highways and roads and private construction spending for streets, housing developments, and parking lots.[88] Apparent U.S. consumption of biaxial and triaxial geogrids declined from *** square yards in 2012 to *** square yards in 2013, and then to *** square yards in 2014. It was *** square yards in January – September ("interim") 2014 and *** square yards in interim 2015.[89]

Tensar and respondents agree that demand for biaxial geogrids is strong and likely to increase due to the new federal highway spending bill, Fixing America's Surface Transportation Act ("FAST Act").[90] Respondents assert that biaxial geogrids are currently used in less than five percent of projects nationwide and that there is substantial room for growth in the geogrid market.[91] They also assert that demand for biaxial geogrids coincides with construction season and is higher during the warmer months.[92]

Respondents report that geogrids are used for stabilization in less than five percent of road construction projects.[93] The parties agree that other forms of geostabilization exist, such as woven or knitted fabric and chemical stabilization.[94] One industry participant reported that

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[85] We provide in the discussions below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

[86] *Mittal Steel*, 542 F.3d at 873; *Nippon Steel Corp*., 458 F.3d at 1350, *citing U.S. Steel Group*, 96 F.3d at 1357; S. Rep. 96-249 at 75 ("The determination of the ITC with respect to causation is ... complex and difficult, and is a matter for the judgment of the ITC.").

[87] CR at II-10, PR at II-6.

[88] CR at II-10, PR at II-6.

[89] CR/PR at Table C-3.

[90] Tr. at 21-22, 26; Respondents' Postconference Br. at 26. We observe that the record is unclear as to whether these statements referred to demand for both biaxial and triaxial geogrids, or biaxial geogrids alone. Nonetheless, given that biaxial geogrids and triaxial geogrids have the same end use and absent any contrary evidence on the record, we find it reasonable to rely on these statements as pertaining generally to both biaxial and triaxial geogrids.

[91] Respondents' Postconference Br. at 25.

[92] Respondents' Postconference Br. at 27; Tr. at 160 (Dowdell).

[93] Respondents' Postconference Br. at 25.

[94] *i.e.* Tr. at 103-104 (Witt).

the geological composition of the road construction site sometimes determines which technology is chosen for stabilization.[95]

2. Supply Conditions

There are two domestic producers of the domestic like product, Tensar and Tenax. Tensar was the largest domestic producer of biaxial geogrids and the only producer of triaxial geogrids during the POI. Since 2003, Tensar has held the patent on triaxial geogrids and it remains the only producer of triaxial geogrids.[96] Tensar previously held the patent on biaxial geogrids in the United States, which expired in May 2012.[97] Tensar offers both branded and private label biaxial products, but sells triaxial geogrids only under its own brand. The domestic industry supplied *** percent of apparent U.S. consumption of biaxial and triaxial geogrids in 2012, *** percent in 2013, and *** percent in 2014. It supplied *** percent of apparent U.S. consumption in interim 2014 and *** percent in interim 2015.[98]

The record contains conflicting information regarding the number of biaxial geogrid producers in China. Petitioner states that there are over 75 producers of biaxial geogrids in China whereas respondents argue that there are only four major Chinese producers.[99] Subject imports from China increased their U.S. market share over the POI from *** percent in 2012 to *** percent in 2013, and then to *** percent in 2014. Their market share was *** percent in interim 2014 and *** percent in interim 2015.[100]

Nonsubject imports of biaxial geogrids from *** entered the United States during *** 2012 but were not present in the U.S. market from 2013 to 2015.[101] Specifically, *** square yards of biaxial geogrids from *** in 2012.[102] These nonsubject imports held *** percent of the U.S. market in 2012.[103] Tensar *** imported *** and *** in 2012.[104]

3. Substitutability and Other Conditions

We find that there is a high degree of substitutability between subject imports and domestically produced products meeting the same specifications. We also find that price is an important factor in purchasing decisions although non-price factors are also important.

All domestic producers and three importers reported that subject imports are "always" interchangeable with domestically produced biaxial geogrids. Eight of 12 responding importers

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[95] Tr. at 103-104 (Witt).

[96] Tr. at 54 (Gerrish).

[97] Tr. at 26 (Lawrence).

[98] CR/PR at Table C-3.

[99] CR at VII-3, PR at VII-2-3.

[100] Derived from CR/PR at Tables C-1 and C-3.

[101] CR at II-8, PR at II-6.

[102] CR/PR at Table C-1. These imports allegedly were ***. *See* Respondents' Postconference Br. at 16.

[103] Derived from CR/PR at Tables C-1 and C-3.

[104] CR/PR at Table C-2.

reported that they are "frequently" interchangeable and one reported that they are "never" interchangeable.[105]

Purchasers reported that price was among the top three purchasing factors.[106] Purchasers reported that "relationship/vendor partnership" and quality were also important purchasing factors.[107] The domestic producers reported that differences other than price were "never" significant in purchasing decisions. Six of 12 responding importers reported that non-price differences between U.S. and Chinese product were "sometimes" significant, four reported they were "frequently" significant, and two reported they were "always" significant.[108]

Tensar states that it offers additional design, technical, and installation guidance on triaxial geogrids that it does not offer with its branded biaxial geogrids, and that private label sales of biaxial geogrids have no additional services whatsoever.[109] Respondents argue that service is an important non-price factor and that importers now provide the services for biaxial geogrids that Tensar no longer provides.[110]

Biaxial and triaxial geogrids are primarily sold to distributors with a smaller amount sold directly to end users.[111] Tensar sells its branded biaxial and triaxial geogrids via exclusive arrangements with distributors. It sells private label biaxial geogrids to other (nonexclusive) distributors that also purchase subject imports.[112]

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[113]

The volume and market penetration of subject imports increased throughout the POI. Subject imports increased from 8.0 million square yards in 2012 to 8.8 million square yards in 2013, and then to 15.6 million square yards in 2014. They were 13.7 million square yards in interim 2014 and 14.4 million square yards in interim 2015.[114] Subject imports as a share of apparent U.S. consumption by quantity increased from *** percent in 2012 to *** percent in 2013 and then to *** percent in 2014. Their market share was *** percent in interim 2014 and *** percent in interim 2015.[115]

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[105] CR/PR at Table II-5.

[106] CR/PR at Table II-4.

[107] CR/PR at Table II-4.

[108] CR/PR at Table II-4.

[109] Petitioner Postconference Br. at 14-15; Tr. at 83 (Gee)("Our private label biaxial products get no support, technical support, in any way").

[110] Respondents' Postconference Br. at 29-31.

[111] CR/PR at Table II-1.

[112] *See* Petitioner Postconference Br. at 14.

[113] 19 U.S.C. § 1677(7)(C)(i).

[114] CR/PR at Table IV-2.

[115] Derived from CR/PR at Tables C-1 and C-3.

We conclude that the volume of subject imports and the increase in that volume was significant, both in absolute terms and relative to U.S. consumption.

D. Price Effects of the Subject Imports

Section 771(7)(C)(ii) of the Tariff Act provides that, in evaluating the price effects of subject imports, the Commission shall consider whether –

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
>
> (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[116]

As discussed above, the record indicates that there is a high degree of substitutability between subject imports and domestically produced biaxial geogrids and that price is an important factor in purchasing decisions. One domestic producer and 11 importers provided usable pricing data for sales of two biaxial geogrid products, although not all firms reported prices for all products for all quarters.[117] Reported pricing data accounted for approximately *** percent of Tensar's commercial U.S. shipments of biaxial geogrid and 72.7 percent of U.S. commercial shipments of subject imports during the POI.[118]

The pricing data include sales prices that Tensar charged for its private label product to distributors as well as prices it charged for "direct" sales of branded product to distributors and end users. Tensar contends that any comparison of its prices for private label products to distributors with prices that importers, which may also be distributors, charge to their customers, would be skewed by differences in levels of trade.[119] Respondents based their underselling arguments on all pricing data in the record.[120] We have examined all pricing data on the record, and have compared subject import prices with all of Tensar's sales prices as well as with prices that Tensar charges its distributors and end users for branded product. In any final phase of these investigations, we invite parties in their comments on draft questionnaires to suggest methods for collecting pricing data that will ensure equivalent levels of trade, including whether the Commission should collect data on importers' costs of obtaining subject imports.

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[116] 19 U.S.C. § 1677(7)(C)(ii).

[117] The pricing products are Product 1 – Biaxial integral geogrid, made from polypropylene, commonly known as "Type 1" of "BX 1100," with a minimum rib thickness of 0.03 inches, and Product 2 – Biaxial integral geogrid, made from polypropylene, commonly known as "Type 2" or "BX 1200," with a minimum rib thickness of 0.05 inches. CR at V-4, PR at V-3. The Commission did not collect pricing data for triaxial geogrid products.

[118] CR at V-5, PR at V-3.

[119] Petitioner Postconference Br., Exhibit 1 at 21-23.

[120] Respondents Postconference Br. at 36.

In comparisons of all of Tensar's branded and private label sales with subject imports, subject imports undersold the domestic like product in 17 quarterly comparisons at margins ranging from *** percent. Subject imports were priced higher than the domestic like product in 34 quarterly comparisons at margins ranging from *** percent.[121] By volume, 4.7 million square yards of subject imports were involved in underselling comparisons as compared to 21.9 million square yards of subject imports involved in overselling comparisons.[122] However, in comparisons of Tensar's branded biaxial product with subject imports, subject imports undersold the domestic like product in 34 quarterly comparisons at margins ranging from *** percent. Subject imports were priced higher than the domestic like product in 17 quarterly comparisons at margins ranging from *** percent.[123] By volume, 18.0 million square yards of subject imports were involved in underselling comparisons as compared to 8.5 million square yards of subject imports involved in overselling comparisons.[124] Therefore, the pricing indicates predominant subject import underselling if only Tensar's sales of branded biaxial merchandise are considered. In light of the importance of price in purchasing decisions, for purposes of these preliminary determinations we find that subject import underselling was significant.

We have also examined price trends. As significant and increasing volumes of low-priced subject imports entered the U.S. market, prices fell. Prices for domestically produced branded biaxial geogrids declined by *** to *** percent between the first and last quarters of the POI for which data were available and prices for Tensar's domestically produced private label product declined by *** to *** percent over this period.[125] Prices for the subject imports declined by 7.2 to 41.6 percent.[126] The decline in prices for Tensar's branded product may be due to some extent to Tensar discounting prices of its private label products beginning in 2011 in preparation for the expiration of its patent on biaxial geogrid in May 2012, as respondents contend.[127] Nonetheless, the price declines persisted throughout the POI, including well after the patent expired, while subject import volume and market penetration continued to increase.[128] Consequently, for purposes of these preliminary determinations, we find that subject imports had significant price depressing effects.[129]

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[121] CR/PR at Table V-8.

[122] CR/PR at Table V-8.

[123] CR/PR at Table V-9.

[124] CR/PR at Table V-9.

[125] CR/PR at Table V-7.

[126] CR/PR at Table V-7.

[127] Respondents argue that Tensar flooded the market with large quantities of deeply discounted private label biaxial geogrid that was priced *** percent below its prices for its branded product and consequently drove down prices for its branded product as well. Respondents' Postconference Br. at 21-22.

[128] In any final phase of these investigations, we intend further to explore any effect private label pricing practices might have on prices for domestically produced branded products.

[129] None of the five purchasers that responded to the lost sales/lost revenue survey reported that they had shifted purchases of biaxial geogrids from U.S. producers to subject imports since January 1, (Continued…)

E. Impact of the Subject Imports[130]

Section 771(7)(C)(iii) of the Tariff Act provides that the Commission, in examining the impact of the subject imports on the domestic industry, "shall evaluate all relevant economic factors which have a bearing on the state of the industry." These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debt, research and development, and factors affecting domestic prices. No single factor is dispositive and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[131]

The record of these preliminary phase investigations indicates that since 2013, the domestic industry experienced declines in output and market share. Measures of its financial performance also declined during this period.

The domestic industry's capacity increased from *** square yards in 2012 to *** square yards in 2013 and 2014. It was *** square yards in both interim 2014 and interim 2015.[132] Production increased from *** square yards in 2012 to *** square yards in 2013, but declined to *** square yards in 2014, a level below that in 2012. It was *** square yards in interim 2014 and lower, at *** square yards, in interim 2015. Capacity utilization declined from *** percent in 2012 to *** percent in 2013, and then to *** percent in 2014. It was *** percent in interim 2014 and was lower, at *** percent, in interim 2015. U.S. shipments of the domestic like product increased from *** square yards in 2012 to *** square yards in 2013, but then declined to *** square yards in 2014, a level below that in 2012. They were *** square yards in interim 2014 and, a larger quantity, *** square yards, in interim 2015.[133] Inventories increased *** from *** square yards in 2012 to *** square yards in 2013, and then to *** square yards in 2014. They were *** square yards in interim 2014 and *** square yards in interim 2015.[134]

The domestic industry's share of apparent U.S. consumption increased from *** percent in 2012 to *** percent in 2013 but then declined to *** percent in 2014. It was lower in interim 2015, when it was *** percent, than in interim 2014, when it was *** percent.[135]

(…Continued)
2012. Three of the five responding purchasers reported that U.S. producers had reduced prices in order to compete with lower priced imports from China. Two reported that they did not know. The reported estimated price reduction ranged from 0.3 to 72.5 percent. CR at V-18, PR at V-8.

[130] In its notice initiating the antidumping duty investigation on biaxial geogrids from China, Commerce reported estimated dumping margins ranging from 289.23 to 372.81 percent. Commerce AD Initiation, 81 Fed. Reg. at 7758

[131] 19 U.S.C. § 1677(7)(C)(iii). This provision was recently amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

[132] CR/PR at Table C-3.

[133] CR/PR at Table C-3.

[134] CR/PR at Table C-3.

[135] CR/PR at Table C-3.

Available data concerning domestic industry employment show declines.[136] The number of production related workers decreased from *** in 2012 to *** in 2013, and then to *** in 2014. There were *** workers in interim 2014 and *** in interim 2015.[137] Total hours worked, wages paid, and productivity also decreased over the POI.[138]

The domestic industry's overall financial performance was worse at the end of the POI than at the beginning. The value of net sales decreased from $*** in 2012 to $*** in 2013, and then to $*** in 2014.[139] It was $*** in interim 2014 and $*** in interim 2015.[140] Net sales values declined by more than costs. Consequently, the domestic industry's ratio of cost of goods sold ("COGS") to net sales increased over the POI from *** percent in 2012 to *** percent in 2013 and then to *** percent in 2014. It was *** percent in interim 2014 and higher, at *** percent, in interim 2015.[141] As a result, the domestic industry's gross profits declined from $*** in 2012 to $*** in 2013, and then to $*** in 2014. They were $*** in interim 2014 and lower, at $***, in interim 2015.[142]

Similarly, the domestic industry's operating income declined from $*** in 2012 to $*** in 2013 and then to $*** in 2014. Operating income was lower in interim 2015, when it was $***, then in interim 2014, when it was $***.[143] Tensar also indicated that ***.[144] The domestic industry's capital expenditures decreased over the POI.[145]

As previously discussed, the significant and increasing volumes of subject imports undersold the domestic like product and led to price depression during the POI. Additionally, subject imports took market share from the domestic industry after 2013. As a result of lower prices and lost market share, the domestic industry's revenues were lower than they would have been otherwise, leading to a decline in gross profits and operating income after 2013.[146] We consequently find that the subject imports had a significant impact on the domestic

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[136] Employment-related data on the record for the domestic industry pertain to biaxial geogrid production only.

[137] CR/PR at Table III-6.

[138] CR/PR at Table III-6.

[139] CR/PR at Table C-3.

[140] CR/PR at Table C-3.

[141] CR/PR at Table C-3.

[142] CR/PR at Table C-3.

[143] CR/PR at Table C-3. The ratio of operating income to net sales increased from *** percent in 2012 to *** percent in 2013 and then declined to *** percent in 2014. It declined further in the interim period, from *** percent interim 2014 to *** percent in interim 2015. *Id.* The record does not contain information concerning the domestic industry's net income because the Commission only requested limited financial information concerning triaxial geogrid in the preliminary phase of these investigations.

[144] Petitioner Postconference Br. at 38-39.

[145] Capital expenditures were $*** in 2012, but had fallen to $*** by 2014. CR/PR at Table C-3. Information on research and development expenses are available for only biaxial geogrid products. These declined from 2012 to 2014 and were lower in interim 2015 than interim 2014. CR/PR at Table VI-3.

[146] In any final phase of these investigations, we intend to explore further the extent to which the expiration of Tensar's patent on biaxial geogrid impacted the U.S. market after 2012.

industry.

We have also considered whether there are other factors that may have had an adverse impact on the domestic industry during the POI to ensure that we are not attributing injury from such other factors to the subject imports. As discussed earlier, the only nonsubject imports in the U.S. market occurred in 2012 and ***.[147] [148] In light of their limited role in the U.S. market, we find that nonsubject imports did not cause the adverse effects we have attributed to subject imports.

For the foregoing reasons, we find that the record of the preliminary phase of these investigations supports a determination that there is a reasonable indication of material injury by reason of subject imports.

VII. Conclusion

For the reasons stated above, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of subject imports of biaxial integral geogrid products from China that are sold in the United States at less than fair value and subsidized by the government of China.

[147] *See* Respondents' Postconference Br. at 16.

[148] Vice Chairman Pinkert and Commissioner Kieff do not find that nonsubject imports of biaxial geogrids were a significant factor in the U.S. market during the period of investigation. Petitioner Tensar, the sole importer of nonsubject merchandise, only imported it from *** in 2012 to support its customers after a fire at its sole U.S. production facility. Tr. at 126; Respondents' Post-Conference Brief at 16. Nonsubject imports held a market share of *** percent in 2012. Thus, consideration of the issue identified in *Bratsk/Mittal* is not required.

PART I: INTRODUCTION

BACKGROUND

These investigations result from a petition filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by Tensar Corporation ("Tensar"), Morrow, Georgia, on January 13, 2016, alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized and less-than-fair-value ("LTFV") imports of certain biaxial integral geogrid products ("biaxial integral geogrid")[1] from China. The following tabulation provides information relating to the background of these investigations.[2] [3]

Effective date	Action
January 13, 2016	Petition filed with Commerce and the Commission; institution of Commission's investigations (81 FR 3157, January 20, 2016)
February 3, 2016	Commission's conference
February 16, 2016	Commerce's notice of initiation (81 FR 7745, 7755)
February 26, 2016	Commission's vote
February 29, 2016	Commission's determinations
March 7, 2016	Commission's views

STATUTORY CRITERIA AND ORGANIZATION OF THE REPORT

Statutory criteria

Section 771(7)(B) of the Tariff Act of 1930 (the "Act") (19 U.S.C. § 1677(7)(B)) provides that in making its determinations of injury to an industry in the United States, the Commission--

> *shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the*

[1] See the section entitled "The Subject Merchandise" in *Part I* of this report for a complete description of the merchandise subject to these investigations.

[2] Pertinent *Federal Register* notices are referenced in appendix A, and may be found at the Commission's website (www.usitc.gov).

[3] A list of witnesses appearing at the conference is presented in appendix B of this report.

determination regarding whether there is material injury by reason of imports.

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that--[4]

In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant.. . .In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . .(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.. . . In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to. . . (I) actual and potential decline in output, sales, market share, gross profits, operating profits, net profits, ability to service debt, productivity, return on investments, return on assets, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) 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 domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—[5]

(J) EFFECT OF PROFITABILITY.—The Commission may not determine that there is no material injury or threat of material injury to an industry in the United States merely because that industry is profitable or because the performance of that industry has recently improved.

[4] Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.
[5] Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

Organization of report

Part I of this report presents information on the subject merchandise, alleged subsidy and dumping margins, and domestic like product. *Part II* of this report presents information on conditions of competition and other relevant economic factors. *Part III* presents information on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. *Parts IV* and *V* present the volume of subject imports and pricing of domestic and imported products, respectively. *Part VI* presents information on the financial experience of U.S. producers. *Part VII* presents the statutory requirements and information obtained for use in the Commission's consideration of the question of threat of material injury as well as information regarding nonsubject countries.

MARKET SUMMARY

Biaxial integral geogrid is used in the construction of paved and unpaved roads, as well as in other construction projects, such as for reinforcing foundations or working platforms that are built on top of unstable soils. The leading U.S. producer of biaxial integral geogrid is Tensar, while leading producers of biaxial integral geogrid in China are Taian Modern Plastic Co., Ltd. ("TMP"), BOSTD Geosynthetics Quingdao, Ltd. ("BOSTD"), Feicheng Lianyi Engineering Plastics ("Feicheng Lianyi"), and Tensar Geosynthetics China ("Tensar China").[6] The leading U.S. importers of biaxial integral geogrid from China are ***. U.S. purchasers of biaxial integral geogrid are firms that distribute geosynthetic products and construction contractors; leading purchasers include distributors ***, some of which also import biaxial integral geogrid.

Apparent U.S. consumption of biaxial integral geogrid totaled approximately *** square yards ($***) in 2014. Currently, two firms are known to produce biaxial integral geogrid in the United States. U.S. producers' U.S. shipments of biaxial integral geogrid totaled *** square yards ($***) in 2014, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. importers' U.S. shipments from China totaled 12.9 million square yards ($11.9 million) in 2014 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. There were no U.S. imports from nonsubject sources in 2014.

SUMMARY DATA AND DATA SOURCES

A summary of data collected in these investigations is presented in appendix C, table C-1. Except as noted, U.S. industry data are based on questionnaire responses of two firms that accounted for all known U.S. production of biaxial integral geogrid during 2014. U.S. imports are based on questionnaire responses of 13 firms that accounted for the vast majority of U.S. imports of biaxial integral geogrid from China during January 2012 through September 2015.

[6] Respondents' postconference brief, p. 45.

PREVIOUS AND RELATED INVESTIGATIONS

Biaxial integral geogrid has not been the subject of any prior countervailing and/or antidumping duty investigations in the United States.

NATURE AND EXTENT OF ALLEGED SUBSIDIES AND SALES AT LTFV

Alleged subsidies

On February 16, 2016, Commerce published a notice in the *Federal Register* of the initiation of its countervailing duty investigation on biaxial integral geogrid from China.[7] Commerce identified the following government programs in China:

A. Preferential Loans and Interest Rates
1. Policy Loans to the Geogrid Industry
2. Export Seller's Credits
3. Export Buyer's Credits
4. Preferential Loans for State-Owned Enterprises ("SOEs")
5. Interest Subsidies for SOEs

B. Grant Programs
1. The State Key Technology Project Fund
2. Export Assistance Grants
3. Subsidies for Development of Famous Export Brands and China World Top Brands
4. Sub-Central Government Subsidies for Development of Famous Brands and China World Top Brands

C. Provision of Inputs for Less Than Adequate Remuneration (LTAR)
1. Provision of Land Use Rights for LTAR
2. Provision of Land to SOEs for LTAR
3. Provision of Polypropylene for LTAR
4. Provision of Electricity for LTAR

D. Tax Benefit Programs
1. Preferential Income Tax Program for High and New Technology Enterprises ("HTNEs")
2. Preferential Deduction of R&D Expenses for HNTEs

[7] *Certain Biaxial Integral Geogrid Products From the People's Republic of China: Initiation of Countervailing Duty Investigation*, 81 FR 7745, February 16, 2016; and *CVD Investigation Initiation Checklist*, February 8, 2016.

3. Income Tax Credits for Domestically-Owned Companies Purchasing Domestically Produced Equipment
4. Reduction In or Exemption From Fixed Assets Investment Orientation Regulatory Tax
5. Preferential Income Tax Subsidies for Foreign Invested Enterprises – "Productive" FIEs
6. Preferential Income Tax Subsidies for Foreign Invested Enterprises – High or New Technology FIEs
7. Preferential Tax Programs for Foreign Invested Enterprises – Export Oriented FIEs
8. Income Tax Benefits for Domestically-Owned Enterprises Engaging in R&D
9. Import Tariff and VAT Exemptions for FIEs and Certain Domestic Enterprises Using Imported Equipment in Encouraged Industries

E. Other Export Programs
1. Export Credit Insurance
2. Export Credit Guarantees

F. Economic Development Zone Programs
1. Taishan Economic Development Zone
    a. Taishan Zone Income Tax Program
    b. Taishan Zone Infrastructure Fee Exemption
    c. Taishan Zone Fiscal Charge Exemptions and Reductions
    d. Taishan Zone Grants for Fixed Assets
    e. Taishan Zone Collection of Charges Exemption
2. Feicheng City High-Tech Development Zone ("Feicheng Zone")
    a. Feicheng Zone Income Tax Subsidy
    b. Feicheng Zone Infrastructure Fee Exemption
3. Ling County Economic Development Zone and Geosynthetics Production Base Grants

Alleged sales at LTFV

On February 16, 2016, Commerce published a notice in the *Federal Register* of the initiation of its antidumping duty investigation on biaxial integral geogrid from China.[8] Commerce has initiated an antidumping duty investigation based on estimated dumping margins between 289.23 and 372.81 percent for biaxial integral geogrid from China.

[8] *Certain Biaxial Integral Geogrid Products From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation*, 81 FR 7755, February 16, 2016.

THE SUBJECT MERCHANDISE

Commerce's scope

Commerce has defined the scope of this investigation as follows:[9]

Biaxial integral geogrid products are a polymer grid or mesh material (whether or not finished, slit, cut-to-length, attached to woven or non-woven fabric or sheet material, or packaged) in which four-sided openings in the form of squares, rectangles, rhomboids, diamonds, or other four-sided figures predominate. The products covered have integral strands that have been stretched to induce molecular orientation into the material (as evidenced by the strands being thinner toward the middle between the junctions than at the junctions themselves) constituting the sides of the openings and integral junctions where the strands intersect. The scope includes products in which four-sided figures predominate whether or not they also contain additional strands intersecting the four-sided figures and whether or not the inside corners of the four-sided figures are rounded off or not sharp angles. As used herein, the term "integral" refers to strands and junctions that are homogenous with each other. The products covered have a tensile strength of greater than 5 kilonewtons per meter ("kN/m") according to American Society for Testing and Materials ("ASTM") Standard Test Method D6637/D6637M in any direction and average overall flexural stiffness of more than 100,000 milligram-centimeter according to the ASTM D7748/D7748M Standard Test Method for Flexural Rigidity of Geogrids, Geotextiles and Related Products, or other equivalent test method standards.
Subject merchandise includes material matching the above description that has been finished, packaged, or otherwise further processed in a third country, including by trimming, slitting, coating, cutting, punching holes, stretching, attaching to woven or non-woven fabric or sheet material, or any other finishing, packaging, or other further processing that would not otherwise remove the merchandise from the scope of the investigations if performed in the country of manufacture of the biaxial integral geogrid.

The products subject to the scope are currently classified in the Harmonized Tariff Schedule of the United States ("HTSUS") under the following subheading: 3926.90.9995. Subject merchandise may also enter

[9] *Certain Biaxial Integral Geogrid Products From the People's Republic of China: Initiation of Countervailing Duty Investigation*, 81 FR 7745, February 16, 2016.

under subheadings 3920.20.0050 and 3925.90.0000. The HTSUS subheadings set forth above are provided for convenience and U.S. Customs purposes only. The written description of the scope is dispositive.

Tariff treatment

Based upon the scope set forth by the Department of Commerce, information available to the Commission indicates that the merchandise subject to these investigations is imported under statistical reporting number 3926.90.9995 of the Harmonized Tariff Schedule of the United States ("HTS"), a basket category covering articles of plastics not elsewhere specified or indicated. Covered merchandise may also be imported under HTS statistical reporting numbers 3920.20.0055 and 3925.90.0000. General duty rates on these goods range from 4.2 to 5.3 percent ad valorem.

THE PRODUCT

Description and applications

Biaxial integral geogrid is produced from an extruded polymer where the grid material has been stretched ("oriented") and possesses homogeneous or "integral" junctions. The term geogrid refers to materials primarily in earth reinforcement and stabilization applications. Geogrids are part of a broader category known as geosynthetics, which consist of a number of synthetic products used to solve various civil engineering and earth construction challenges.[10]

Geogrids can be categorized based on shape, which include uniaxial geogrids (oriented in one direction), biaxial geogrids (oriented in two directions), and triaxial geogrids (oriented in three directions).[11] In a biaxial or "BX" geogrid, the grid has been produced in a manner that creates quadrangular openings or apertures within the grid. The strands or "ribs" have working strength in two directions, i.e., longitudinal and transverse. The term integral means that the geogrid is a monolithic structure in which the junctions that connect the strands of the quadrangle are all a part of the same starting material. This is differentiated from other products, for example, which did not start from the same structure (are not integral), such as strands welded together. The term biaxial integral geogrid may also be referred to as a "homogeneous," "integral," "oriented," or "punched and drawn" geogrid.[12]

Uses for biaxial integral geogrid include applications such as building roadways, rural projects for subdivisions and land development, certain wall systems, marine mattresses, and other surface stabilization and reinforcement applications.[13] The most common use of the

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[10] Petition, p. 3.

[11] Chandra, C. Sai, "Geogrid Reinforced Concrete," http://www.slideshare.net/chandravardhan50/geogrids-in-concrete, retrieved February 12, 2016.

[12] Petition, p. 4.

[13] Conference transcript, p. 39 (Witt), p. 42 (Coleman), and p. 49 (Gerrish); Petition, p.19.

subject product is the construction of paved (usually asphalt) and unpaved roads.[14] The primary driver of demand for the product is road construction.[15] When a road is constructed, materials such as stone (aggregate) and asphalt are used. Biaxial integral geogrid holds the aggregate in place. The result is that less aggregate can be used in the construction, saving costs to a project. The product interlocks with aggregate to prevent lateral movement of the road and increases the road's load-bearing capacity.[16]

Manufacturing processes

The typical production process for biaxial integral geogrid includes melting, extrusion, punching, stretching, winding and cutting.[17] Tensar begins production with a mixture of polymer of polypropylene resin pellets and black masterbatch, which are melted and extruded to form a sheet.[18] The purpose of the black masterbatch is to provide coloring and ultra-violet light protection to the blend.[19] Any recovered scrap is reintroduced into the melting and extrusion processes.[20] The manufactured sheet is passed through a punch press which makes quadrangular holes in the sheet. After the holes have been punched, the product goes through a machine called the "orienter," which heats the punched sheet and then pulls it in two directions, lengthwise, also referred to as to as "longitudinal" or the "machine" direction, and then sideways, also referred to as the "cross-machine" or "transverse" direction. Because the material is stretched, it lengthens and widens the final product. Stretching also aligns the molecules in a homogenous chain-like pattern which results in greater strength to the product. This is important in downstream applications where the product will provide load-bearing capacity. After the product goes through the heated orienter machine, it goes through a cooling water bath. Next, the product goes through a winding machine and a cutter, which winds, cuts to length, spools in rolls, and wraps for shipment.[21]

The respondents state that their biaxial geogrid products are made of the same polymer as the petitioner's, which is polypropylene.[22]

The petitioner differentiates its manufacturing process of grid formation with that of other geotextiles. Specifically, it states that its grids are not the result of knitting, weaving, or welding together individual strands of strips of polymer. It claims that this is important because the extruded integral oriented geogrid produced by the petitioner has advantages in junction strength, tensile strength, junction efficiency, resistance to deformation, and stiffness.[23]

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[14] Petition, p. 19.
[15] Conference transcript, p. 46 (Brooks).
[16] Petition, p. 19.
[17] Petition, exh. I-48, Affidavit of ***.
[18] Conference transcript, p. 35 (Gee).
[19] Petition, exh. I-48, Affidavit of ***.
[20] Petition, exh. I-48, Affidavit of ***.
[21] Petition, exh. I-48, Affidavit of *** and Conference transcript, pp. 34-36 (Gee).
[22] Conference transcript, p.161 (Dowdell) and p. 162 (Baisburd and Cashatt).
[23] Petition, exh. I-48, Affidavit of ***.

DOMESTIC LIKE PRODUCT ISSUES

Tensar contends that the domestic like product consists of items covered by the scope of the investigation and that the product it produces with openings in the shape of a triangle, Tensar TriAx® Geogrid ("TriAx"), should not be considered part of the like product in these investigations.[24] Respondents argue that TriAx should be included within the domestic like product definition.[25] The Commission's decision regarding the appropriate domestic product(s) that are "like" the subject imported product is based on a number of factors including: (1) physical characteristics and uses; (2) common manufacturing facilities and production employees; (3) interchangeability; (4) customer and producer perceptions; (5) channels of distribution; and (6) price. Information regarding these factors is discussed below. Additional trade and financial data collected concerning TriAx is presented in appendix C.

The Commission asked all U.S. producers, U.S. importers, and foreign producers[26] to compare biaxial integral geogrid and TriAx. Their responses are summarized below and a tabulation of the responses is presented in table I-1.

Table I-1

Biaxial integral geogrid: Comparison of biaxial integral geogrid with TriAx based on six domestic like product factors

Factor	U.S. producers				U.S. importers			
	F	M	S	N	F	M	S	N
Characteristics and Uses	***	***	***	***	3	4	3	0
Interchangeability	***	***	***	***	6	0	4	0
Manufacturing	***	***	***	***	3	2	1	0
Channels	***	***	***	***	6	2	0	1
Market perceptions	***	***	***	***	2	6	1	0
Price	***	***	***	***	1	1	4	4

Note: F=fully comparable; M=mostly comparable; S=somewhat comparable; N=not at all comparable.

Source: Compiled from data submitted in response to Commission questionnaires.

Physical characteristics and uses

Firms were asked to describe the differences and similarities in the physical characteristics and end uses between biaxial integral geogrid and TriAx. Tensar explains that the physical characteristics of TriAx are different and it is more technologically advanced than biaxial integral geogrid.[27] While biaxial integral geogrid is comprised of strands that intersect to

[24] Petition, pp. 28-31.

[25] Respondents' postconference brief, pp. 2-15.

[26] No foreign producer provided comments on the comparability of biaxial integral geogrid with TriAx.

[27] Petition, p. 30.

form rectangular or square apertures with radial stiffness along two axes, TriAx is comprised of strands that form triangular apertures and have radial stiffness throughout the entire geogrid plane. These differences result in TriAx having improved performance, longer service life, and greater cost savings over biaxial integral geogrid.[28] Tensar also notes that biaxial integral geogrid and TriAx undergo different testing procedures because of the structure and material strength differences.[29]

Respondents argue that TriAx is like other biaxial geogrid products with the same uses, the only distinction being triangle-shaped openings rather than square or rectangle.[30] Importer *** notes that depending on the engineer, application, and design, the two products can be considered comparable. Importer *** states that both products are used for similar applications; however, from a marketing perspective some companies have marketed various strength characteristics in order to position the TriAx product as a superior product to biaxial products. Importer *** states that biaxial integral geogrid and TriAx have identical uses in the field. Both biaxial integral geogrid and TriAx are made with polypropylene resin on equipment that stretches and orients punched sheets of film in both the machine and cross-machine directions. Both products are also designed to be infilled with aggregate to provide subgrade stabilization.

Interchangeability

Tensar contends that because it has physical characteristics suited for specific uses, biaxial integral geogrid is not interchangeable with TriAx. Many state specifications do not provide for the use of TriAx at all, or classify it in a separate category from biaxial integral geogrid. Substitution would require changes to the engineering design of the project.[31]

Respondents claim that biaxial integral geogrid and TriAx are interchangeable, and that Tensar itself considers the products to be interchangeable. Respondents cite Tensar's announcement to discontinue regular production of one biaxial product and utilize a TriAx product in its place. They also cite the similarities in the installation guide for the two products.[32] Importer *** states that both products are used in all the same markets and applications. Both products benefit roadways in one or more of the following defined geosythetic functions: separation, tension-membrane reinforcement, and confinement/lateral restraint. Triangular geogrid creates or accomplishes no new, unique, or innovative functions in pavement applications. Both products are tested to index properties using the same ASTM and other agency testing standards. *** notes that many DOTs do not differentiate as the biaxial integral geogrid has been used for the same applications for decades. *** note that interchangeability is dependent on the project specification.

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[28] Petitioner's postconference brief, p. 9.
[29] Petitioner's postconference brief, p. 11.
[30] Repsondents' postconference brief, pp. 3-6.
[31] Petitioner's postconference brief, pp. 12-14.
[32] Respondents' postconference brief, pp. 8-10.

Manufacturing facilities and production employees

Tensar states that both biaxial integral geogrid and TriAx use polypropylene resin that is extruded into a sheet; however the widths and thicknesses for the sheets differ between the two products. Biaxial integral geogrid and TriAx can be produced on the same production line,[33] but production of TriAx requires retooling of the equipment as well as new equipment not necessary for the production of biaxial integral geogrid. ***.[34]

Respondents claim that Tensar's differences in production are relatively minor. The thickness and width of the polypropylene sheet determines the strength and width of the finished product and changes between grades of biaxial integral geogrid. The tooling of the punching machine is assembled as a "cassette" and changing from one grade to another or from rectangular or triangular apertures only requires switching the "cassette." Finally, they state that beveled rollers have been employed on non-TriAx biaxial geogrid for more than 30 years. In addition, beveled rollers are used in the winding stage, and not the basic manufacture of both products.[35]

Customer and producer perceptions

Tensar states that customers perceive TriAx to be a distinct product from biaxial integral geogrid, as evidenced by the different specifications and requirements issued by the public works departments of state and local governments. Furthermore, biaxial integral geogrid is displayed separately from TriAx in company brochures and other informational materials and in technical guidelines.[36] Respondents state that customers perceive TriAx as another biaxial geogrid product. They cite numerous bid documents listing TriAx products together with other biaxial geogrid products as acceptable alternatives.[37] *** noted that the majority of its customers do not recognize a difference in the end use and seem to only want triaxial grid if the engineer that designed the project will not allow substitutions. In addition, *** stated that some companies have marketed various strength characteristics in order to position the triaxial product as a superior product to biaxial products.

Channels of distribution

Tensar holds a U.S. patent on TriAx, which gives it the exclusive right to produce and sell the product in the United States.[38] Tensar states that biaxial integral geogrid and TriAx are sold and marketed differently. For example, biaxial integral geogrid are supplied through "private

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[33] Transcript, p. 52 (Gerrish).
[34] Petitioner's postconference brief, pp. 15-16.
[35] Respondents' postconference brief, pp. 6-8.
[36] Petitioner's postconference brief, p. 16.
[37] Respondents' postconference brief, pp. 10-12.
[38] Petitioner's postconference brief, pp. 14-15.

label" arrangements, while TriAx is not. In addition, manufacturers and distributors provide different services depending on the type of geogrids.

Respondents state that the channels of distribution are the same for both products. Tensar sells TriAx through its network of exclusive, authorized, regional distributors. These distributors are the same for Tensar's biaxial integral geogrid products.[39]

Price

Tensar explains that TriAx is priced significantly higher than biaxial integral geogrid.[40] Tensar's average commercial shipment unit value for biaxial integral geogrid was between $*** and $*** during the period examined. Its average unit value for TriAx was between $*** and $***. Respondents argue that it is not appropriate to consider price dispositive because the price premium paid for TriAx is a function of factors other than any dissimilarity in TriAx from other biaxial geogrid products.[41] Importers *** noted that the price of the two products is also dependent on the nature of the project.

[39] Respondents' postconference brief, p. 13.
[40] Conference transcript, p. 182 (Gerrish).
[41] Repsondents' postconference brief, pp. 13-15.

PART II: CONDITIONS OF COMPETITION IN THE U.S. MARKET

U.S. MARKET CHARACTERISTICS

Biaxial integral geogrid is used mainly in trafficked areas, particularly public and private paved and unpaved roadways. It is also used to reinforce foundations and for construction platforms. Roads and platforms utilizing biaxial integral geogrid are used in a variety of applications including airports, parking lots, residential streets, marine, mining, oil and gas, and petrochemical applications.[1]

Biaxial integral geogrid is used in only a small proportion of roads and other applications where it could be used, with utilization estimates ranging from 5 to 20 percent.[2] The utilization rate varies in different regions, based on the relative cost of alternative products. For example, Texas has a relatively high utilization rate with about 20 percent of road building using biaxial integral geogrid and 80 percent using other methods such as chemical stabilization.[3]

Tensar held a patent on biaxial integral geogrid until May 2012.[4] In anticipation of the patent expiration, Tensar prepared for additional market entrants by reducing prices and growing its sales and distribution network.[5] Respondents assert that Tensar's exclusivity had constrained growth in the biaxial integral geogrid market because sole-sourcing is discouraged in procurement for public projects.[6]

Tensar sells its Tensar-branded biaxial integral geogrid through its authorized distributor network. Tensar's exclusive distributors have the rights to distribute Tensar-branded product in particular states or areas of states.[7] Outside of their designated regions, these distributors may sell non-Tensar product.[8] Tensar also sells to distributors that put their own private label brands on the product.[9] ***. Tensar provides no service support for its private label biaxial integral geogrid and limited support for its Tensar-branded biaxial integral geogrid.[10]

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[1] Conference transcript, p. 95 (Lawrence), p. 120 (Dowdell). ***. Respondents' postconference brief, p. 31 and exh. 22.

[2] *** reported that biaxial integral geogrid is used in about 10 percent of road surfacing and stabilization applications. Hanes estimates that the nationwide utilization rate is 5 percent. Conference transcript, p. 122 (Dowdell).

[3] Conference transcript, p. 104 (Witt).

[4] Conference transcript, pp. 24-26 (Lawrence).

[5] Petitioner's postconference brief, pp. 30-31.

[6] Respondents' postconference brief, p. 16.

[7] Conference transcript, p. 70 (Gerrish). Tensar selects its distributor partners based on ***. Petitioner's postconference brief, exh. 104.

[8] Conference transcript, p. 70 (Gerrish), p. 71 (Brooks).

[9] Conference transcript, p. 70 (Gerrish).

[10] Tensar provides more extensive support services for its patented TriAx product. Conference transcript, p. 83 (Gee).

Most Chinese product is imported and sold by distributors under the distributors' brands although a small proportion is branded in China.[11] Distributors that sell their own brands may source from multiple suppliers including both Tensar and Chinese sources.[12] For example, Hanes uses three different suppliers for its private-label Terragrid product. Hanes noted that it does not commingle product from different sources on the same project since there can be minor product differences such as aperture size.[13]

While biaxial integral geogrid is produced to a number of different specifications, most domestic and imported product sales of biaxial integral geogrid are Type 1 or Type 2.[14] Because of its greater thickness and higher tensile strength, Type 2 offers higher performance and is more expensive than Type 1, although prices between the two have reportedly narrowed.[15] Importer *** noted that sales have shifted from Type 1 to Type 2 as prices for both types have come down.[16]

The majority of sales of biaxial integral geogrid are for public projects, in which material use is dictated by Department of Transportation ("DOT") specifications. Private projects, however, have more flexibility to use different methods for road stabilization.[17] Biaxial integral geogrid is included in most state DOT specifications, and counties and cities typically follow state specifications.[18] Although some customers prefer American-made product, sales for public projects are generally not subject to the Buy America Act.[19]

Apparent U.S. consumption of biaxial integral geogrid was fairly stable from 2012 to 2014. Overall, apparent U.S. consumption in 2014 was *** percent higher than in 2012. Apparent U.S. consumption was *** percent higher in January-September 2015 compared to interim 2014.

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[11] Conference transcript, p. 145 (Dowdell).

[12] Conference transcript, p. 145-148 (Dowdell, Cashatt, and Frey).

[13] Conference transcript, p. 146 (Dowdell).

[14] Importer *** reported that square (also called "balanced") grids, which offer the same performance as Type 1 and Type 2, but are less expensive because they use less polypropylene, have increased in market share. *** importer questionnaire response, question III-14.

[15] Tensar sent letters to its customers in 2009 and 2010 stating that it would discontinue regular production of Type 2 biaxial integral geogrid and that customers would be asked to use TriAx instead. Tensar stated that soon after it tried to make Type 2 a special order product, it reversed its decision. Petitioner asserts that this occurred well before the current period of investigation and that Tensar has remained committed to the biaxial integral geogrid market. Conference transcript, pp. 78-79 (Gee). Petitioner's postconference brief, p. 1 and exh. 104. Respondent's postconference brief, exh. 2, letter from Tensar.

[16] *** importer questionnaire response, question III-14.

[17] Conference transcript, p. 105, 110 (Brooks). Private projects trend toward triaxial geogrid in Texas and public projects toward biaxial integral geogrid. Conference transcript, p. 111 (Witt).

[18] Conference transcript, p. 25 (Lawrence), p. 61 (Gee).

[19] Conference transcript, p. 112 (Gee).

CHANNELS OF DISTRIBUTION

U.S. producer Tensar and importers sold a majority to distributors as compared to end users/contractors (table II-1). For Tensar, *** of U.S. commercial shipments were to distributors. Tensar's distributor sales include sales to firms that also import Chinese product and sell both domestic and imported product under private labels. For importers, about two-thirds of shipments were to distributors.

GEOGRAPHIC DISTRIBUTION

U.S. producers and importers reported selling biaxial integral geogrid to all regions in the United States (table II-2). For U.S. producers, ***percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold 30 percent within 100 miles of their U.S. point of shipment, 45 percent between 101 and 1,000 miles, and 25 percent over 1,000 miles.

Table II-1
Biaxial integral geogrid: U.S. producers' and importers' U.S. commercial shipments, by sources and channels of distribution, January 2012-September 2015

* * * * * * *

Table II-2
Biaxial integral geogrid: Geographic market areas in the United States served by U.S. producers and importers

Region	U.S. producers	Subject U.S. importers
Northeast	***	7
Midwest	***	9
Southeast	***	9
Central Southwest	***	10
Mountains	***	7
Pacific Coast	***	8
Other[1]	***	3
All regions (except Other)	***	5
Reporting firms	2	11

[1] All other U.S. markets, including AK, HI, PR, and VI.

Source: Compiled from data submitted in response to Commission questionnaires.

SUPPLY AND DEMAND CONSIDERATIONS

U.S. supply

Domestic production[20]

Based on available information, U.S. producer Tensar has the ability to respond to changes in demand with large changes in the quantity of shipments of U.S.-produced biaxial integral geogrid to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity, high inventories, the existence of alternate markets, and possible ability to produce alternate products.

Industry capacity

Domestic capacity utilization decreased from *** percent in 2012 to *** percent in 2014. Capacity utilization was *** percent in interim 2015 compared to *** percent in interim 2014. The decline in capacity utilization from 2012 to 2014 was a result of a modest increase in capacity combined with a larger decrease in production. This relatively low level of capacity utilization suggests that Tensar may have a substantial ability to increase production of biaxial integral geogrid in response to an increase in prices.

Alternative markets

Tensar's exports, as a percentage of total shipments, decreased from *** percent in 2012 to *** percent in 2014. Export shipments were much lower in interim 2015 than in interim 2014 on both an actual basis and as a share of total shipments (*** percent in interim 2015 compared to *** percent in interim 2014). The level of Tensar's exports indicates that Tensar may have some ability to shift shipments between the U.S. market and other markets in response to price changes.

Tensar's principal export markets are ***. Tensar reported that demand in ***

Inventory levels

Tensar's inventories, as a ratio to total shipments, increased from *** percent in 2012 to *** percent in 2014. During interim 2014 and interim 2015, the ratio was *** percent and *** percent, respectively. These inventory levels suggest that Tensar may have a substantial ability to respond to changes in demand with changes in the quantity shipped from inventories.

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[20] The Commission received two questionnaire responses from U.S. producers, Tensar and Tenax. Tenax, which accounted for *** percent of U.S. production of biaxial integral geogrid during 2012-14, provided limited useable data.

Production alternatives

Tensar stated that it was *** to switch production between biaxial integral geogrid and other products. Although it produces TriAx and uniaxial geogrid in the same facilities, it stated that the punch press tooling is specific to each product and ***. Tenax ***.

Subject imports from China[21]

Based on available information, producers of biaxial integral geogrid from China have the ability to respond to changes in demand with large changes in the quantity of shipments of biaxial integral geogrid to the U.S. market. The main contributing factor to this degree of responsiveness of supply is the large production capacity for biaxial integral geogrid in China.

Industry capacity

Total capacity in China is estimated to be over *** square yards[22] as compared to U.S. producer Tensar's capacity of *** square yards. The two responding Chinese producers reported a combined capacity of *** square yards in 2014. Feicheng Lianyi indicated that it was operating at ***capacity throughout the period of investigation while Tensar China reported *** capacity utilization rates.

Alternative markets

Chinese producers indicated that *** percent or more of shipments were to the Chinese home market, either sold commercially or consumed internally. According to the Petitioner, demand in China has declined because of a general slowdown in the Chinese economy and a decrease in infrastructure projects.[23]

Inventory levels

Chinese producers' inventories, as a ratio to total shipments, decreased from *** percent in 2012 to *** percent in 2014. These inventory levels suggest that Chinese producers may have a substantial ability to respond to changes in demand with changes in the quantity shipped from inventories.

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[21] The Commission received two questionnaire responses from Chinese producers. Feicheng Lianyi estimated that its exports accounted for ***percent of total exports of biaxial integral geogrid to the United States from China in 2014. Tensar China ***.

[22] Chinese capacity estimate based on Petitioner's estimate as discussed in further detail in Part VII.

[23] Petitioner's postconference brief, pp. 44-45.

Production alternatives

Feicheng Lianyi reported that it *** able to switch production between biaxial integral geogrids and other products, ***. Tensar China ***.

Nonsubject imports

Imports from *** accounted for all nonsubject imports and *** of total imports in 2012. No imports from nonsubject countries were reported in 2013, 2014, or 2015.

Supply constraints

*** reported *** supply constraints since January 1, 2012. Five of 11 responding importers reported constraints, mostly for domestic product. Importers *** reported being unable to procure biaxial integral geogrid to supply to their customers prior to the expiration of Tensar's patent in May 2012. *** reported that it imported product from China since Tensar was not able to supply biaxial integral geogrid. *** reported that long transit times from China affected its supply. Respondents reported that there was a fire at the Tensar U.S. facility in 2011, and that while Tensar supplied the market with Chinese and UK imports, this highlighted to the market the risk of sole sourcing.[24]

U.S. demand

Based on available information, the overall demand for biaxial integral geogrid is likely to experience moderate changes in response to changes in price. The main contributing factor to increased responsiveness is the availability of substitute products, but the small cost share of biaxial integral geogrid in the total cost of construction projects decreases responsiveness.

End uses

U.S. demand for biaxial integral geogrid depends on the demand for U.S.-produced downstream products. The major end use for biaxial integral geogrid is in the construction of roads; biaxial integral geogrid reduces the amount of aggregate needed and increases the road's load bearing capacity. Biaxial integral geogrid is also used in other construction projects, such as reinforcing foundations or working platforms built on top of unstable soils.[25] The major demand drivers for biaxial integral geogrid are public spending on highways and roads and private construction spending for streets, housing developments, and parking lots.[26]

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[24] Conference transcript, p. 126 (Dowdell). Respondents' postconference brief, p. 16.
[25] Petition, p. 19
[26] Conference transcript, p. 31 (Gee).

Cost share

Biaxial integral geogrid accounts for a small share of the overall project cost for road construction and other uses.[27] Firms reported cost shares ranging from 1 to 24 percent. Importer *** estimated that the cost was 1 percent for stabilization. *** estimated that the cost share was 20 percent for road stabilization and base reinforcement and 2 percent for mechanically stabilized earth walls. *** reported cost shares of 4 percent for paved roads and 7 percent for unpaved roads. *** reported 10 percent for road stabilization. *** reported 24 percent in paver edge restraints.

Business cycles

Both U.S. producers and 7 of 11 responding importers indicated that the market was subject to business cycles. Firms noted seasonal demand with reduced construction in winter in northern climates, since cold weather impacts both construction schedules and soil conditions. Importer *** reported that most sales of biaxial integral geogrid are during March-October.

Demand trends

Most firms reported an increase in U.S. demand for biaxial integral geogrid since January 1, 2012 (table II-3). Both Tensar and Respondents reported increased demand with the economic recovery, increased infrastructure spending and new Federal highway funding, as well as increased growth in demand as more customers use geogrids in road construction. In addition, aggregate prices reportedly have increased since 2012, increasing demand for biaxial integral geogrid, since using biaxial integral geogrid reduces the amount of aggregate needed. Many importers reporting increased demand reported that the decreased prices and increased availability of biaxial integral geogrid since the patent expiration has increased demand for the product. *** reported that the market for biaxial integral geogrid is growing at about 5 to 7 percent per year. ***, on the other hand, described the market as mature with an oversupply of material.

Tensar and Respondents expect additional growth over the next few years with new spending on roads with the Fixing America's Surface Transportation Act (the "FAST" Act) that was signed into law in December 2015.[28] Respondents also stated that since the patent protection expired, demand for biaxial integral geogrid has replaced design alternatives such as chemical stabilization using lime.[29]

[27] Conference transcript, p. 121 (Dowdell).
[28] Conference transcript, pp. 26-27 (Lawrence). Respondents' postconference brief, pp. 23-26.
[29] Conference transcript, p. 125 (Dowdell).

Table II-3

Biaxial integral geogrid: Firms' responses regarding U.S. demand and demand outside the United States

Item	Number of firms reporting			
	Increase	No change	Decrease	Fluctuate
Demand inside the United States: U.S. producers	1	1	0	0
Importers	6	1	0	2
Demand outside the United States: U.S. producers	0	0	0	1
Importers	1	1	1	2

Source: Compiled from data submitted in response to Commission questionnaires.

With respect to demand outside the United States, *** reported that demand in Canada has declined with less road building (less oil and gas exploration) and infrastructure spending, and that demand is expected to be lower in China with decreased economic growth.

Substitute products

Tensar and most importers reported that there were substitutes for biaxial integral geogrids. Substitutes for biaxial integral geogrid include using additional aggregate, rock, or asphalt; woven and other geotextiles; chemical stabilization; and TriAx. Design engineers can use biaxial integral geogrid or alternatives such as lime, cement, or use additional rock.[30] The use of biaxial integral geogrid can save contractors costs on aggregate, asphalt, and other materials, for which prices have gone up significantly since 2012.[31] However, the feasibility and use of alternative products versus biaxial integral geogrid depends on the location; for example, some regions have greater availability and lower prices of rock.[32]

Tensar and respondents reported that use of other geotextiles (i.e., woven/knitted/welded non-integral geogrids) in roadways had declined greatly, with respondents reporting that these geotextiles have become less feasible because of the price of geogrids.[33] Tensar reported that prices of aggregate and stone have not affected prices of biaxial integral geogrid and that prices of aggregate and stone have increased significantly. Importers' responses were mixed regarding whether prices have affected demand for biaxial integral geogrid, with four importers reporting that changes in prices of substitutes had affected prices of biaxial integral geogrid. Specifically, *** reported that geogrids have become a better value for base stabilization as prices of imports have dropped; *** reported that asphalt prices have dropped with oil prices; and *** reported that in some locations, using additional rock can be cost competitive with using geogrids, that chemical stabilization can be

[30] Conference transcript, p. 122 (Dowdell).
[31] Conference transcript, p. 31 (Gee).
[32] Conference transcript, p. 108 (Gee).
[33] Respondents' postconference brief, p. 24.

lower cost under proper soil conditions, and that other geosynthetics can be lower cost under certain site conditions.

The substitutability of TriAx for biaxial integral geogrid depends on whether the state specifications list TriAx for public projects, and there may be more flexibility for private projects. The interchangeability between TriAx and biaxial integral geogrid is discussed in greater detail in Part I.

Using substitute products may require re-engineering the project design.[34] Construction plans are prepared before the contract is awarded, and it could take from 6 months to a couple of years before a project is underway.[35] Industry participants reported that designs may be done several years in advance, and it can be an "arduous process" to get a design changed.[36]

SUBSTITUTABILITY ISSUES

The degree of substitution between domestic and imported biaxial integral geogrid depends upon such factors as relative prices, quality (e.g., specifications, reliability of supply, defect rates, etc.), and conditions of sale (e.g., price discounts/rebates, lead times between order and delivery dates, payment terms, product services, etc.). Based on available data, staff believes that there is a high degree of substitutability between domestically produced biaxial integral geogrid and biaxial integral geogrid imported from China.

Lead times

Biaxial integral geogrid is primarily sold from inventory. Tensar reported that *** percent of its commercial shipments were from inventories, with lead times averaging *** days, and *** percent were produced-to-order with lead times averaging *** days. Tenax reported that *** percent of its sales were from inventory with an average lead time of *** and *** percent were produced-to-order with an average lead time of ***.

Importers reported that over 90 percent of shipments were from U.S. inventories with lead times averaging 3 days. Importers' lead times for produced-to-order product and from foreign inventories averaged 49 days and 75 days, respectively. Distributors maintain inventories of the product, with one distributor, ACF, reporting that 70 to 80 percent of its business turns in a day; although for large projects, biaxial integral geogrid may be shipped directly from the producer to the customer.[37]

[34] Conference transcript, p. 51 (Gee, Lawrence).
[35] Conference transcript, p. 65-66 (Gee).
[36] Conference transcript, p. 66 (Brooks).
[37] Conference transcript, pp. 92-94 (Witt, Brooks, and Coleman).

Factors affecting purchasing decisions

Purchasers responding to lost sales lost revenue allegations[38] were asked to identify the main purchasing factors their firm considered in their purchasing decisions for biaxial integral geogrid. The major purchasing factors identified by firms include price, relationship/vendor partnership, and quality (table II-4).

Table II-4
Biaxial integral geogrid: Ranking of factors used in purchasing decisions as reported by U.S. purchasers, by factor

Factor	First	Second	Third	Total
Price	1	1	3	5
Relationship/vendor partnership	2	0	0	2
Quality	1	2	0	3
Other[1]	2	2	2	6

[1] Other factors include product name and U.S. made for first factor; customer specifications and engineering and customer support for second factor; and ease of purchasing and market effort of manufacturer for third factor.

Source: Compiled from data submitted in response to Commission questionnaires.

Comparison of U.S.-produced and imported biaxial integral geogrid

In order to determine whether U.S.-produced biaxial integral geogrid can generally be used in the same applications as imports from China, U.S. producers and importers were asked whether the products can "always," "frequently," "sometimes," or "never" be used interchangeably. As shown in table II-5, U.S. producers reported that domestic product and imported product from China are always interchangeable while most importers (8 of 12) reported that the products were frequently interchangeable. Three importers reported that U.S. and Chinese product were always interchangeable and one importer reported that they were never interchangeable.

Only one importer provided additional comments regarding interchangeability; ***. According to Hanes, the performance of the Chinese product is extremely good, and Hanes has had no quality issues with the product.[39]

[38] This information is compiled from responses by purchasers identified by Petitioner to the lost sales lost revenue allegations. See Part V for additional information.

[39] Hanes also stated that the Chinese product is about 5 percent heavier than the U.S. product. Conference transcript, pp. 145-146 (Dowdell).

Table II-5

Biaxial integral geogrid: Interchangeability between biaxial integral geogrid produced in the United States and in other countries, by country pairs

Country pair	U.S. producers				U.S. importers			
	A	F	S	N	A	F	S	N
United States vs. China	2	0	0	0	3	8	0	1
United States vs. Other	1	1	0	0	2	3	0	0
China vs. Other	2	0	0	0	2	2	0	0

Note.—A=Always, F=Frequently, S=Sometimes, N=Never.

Source: Compiled from data submitted in response to Commission questionnaires.

In addition, U.S. producers and importers were asked to assess how often differences other than price were significant in sales of biaxial integral geogrid from the United States, subject, or nonsubject countries. As seen in table II-6, both U.S. producers reported that differences other than price were never significant in comparing domestic product to Chinese product, while six of 12 responding importers reported that they were sometimes significant, 4 reported frequently, and 2 reported always.

Table II-6

Biaxial integral geogrid: Significance of differences other than price between biaxial integral geogrid produced in the United States and in other countries, by country pairs

Country pair	U.S. producers				U.S. importers			
	A	F	S	N	A	F	S	N
United States vs. China	0	0	0	2	2	4	6	0
United States vs. Other	0	0	0	2	0	1	3	0
China vs. Other	0	0	0	2	0	1	2	0

Note.--A = Always, F = Frequently, S = Sometimes, N = Never.

Source: Compiled from data submitted in response to Commission questionnaires.

In additional comments, *** reported that Tensar has a large engineering service presence. *** reported that there is a negative perception of imports even though they reliably meet specifications, that importing requires accurate planning and high carrying costs for inventories, and that it has lost orders because of long lead times. It also added, regarding technical support, that it has to rely on our own expertise and pay for any testing costs. *** reported the following additional non-price factors affecting sales: service capability, availability of related products since contractors value buying mixed loads, and on-time delivery.

Importers reported that they were unable to purchase from Tensar because of exclusive distribution arrangements and that distributors that could not purchase directly from Tensar had to go to their direct competitors to get pricing on products.[40] *** reported that it only has access to Tensar products in three states.

[40] Conference transcript, p. 126 (Dowdell), p. 129 (Cashatt), p. 133 (Frey).

Hanes stated that the product it imports from *** for its private label business provides superior packaging compared to the Tensar product, and that the packaging configuration provides for loading efficiency on trucks and at storage sites, and prevents damage to rolls that are stacked more than 30 days.[41]

Respondents state that service is an important non-price factor, and that importers such as Hanes, Alliance, and Hill Country provide service that Tensar no longer provides on biaxial integral geogrid.[42] Tensar stated that unlike its sales of TriAx, it typically does not offer design, technical, and installation guidance on biaxial integral geogrid.[43] Tensar stated that technical support and service were important when Tensar was building the market for the product and it was not accepted in state and other specifications, but that the product is now well-accepted, and competition is now only on the basis of price.[44]

[41] Respondents' postconference brief, p. 21 and exh. 14.
[42] Respondents' postconference brief, pp. 29-31.
[43] Petitioner's postconference brief, pp. 14-15.
[44] Petitioner's postconference brief, exh. 1, p. 7.

PART III: U.S. PRODUCERS' PRODUCTION, SHIPMENTS, AND EMPLOYMENT

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margin was presented in *Part I* of this report and information on the volume and pricing of imports of the subject merchandise is presented in *Part IV* and *Part V*. Information on the other factors specified is presented in this section and/or *Part VI* and (except as noted) is based on the questionnaire response of Tensar that accounted for the vast majority of U.S. production of biaxial geogrid during January 2012 through September 2015.

U.S. PRODUCERS

The Commission issued a U.S. producer questionnaire to two firms based on information contained in the petition. Tensar provided useable data on their productive operations. The Commission also received a questionnaire response from Tenax Corporation ("Tenax"). Tenax did not provide complete trade, financial, or pricing data. Tenax's annual capacity is *** square yards, and its production in 2014 was ***. Staff believes that these responses represent all known U.S. production of biaxial integral geogrid.

Table III-1 lists U.S. producers of biaxial integral geogrid, their position on the petition, production locations, and shares of total production.

Table III-1
Biaxial integral geogrid: U.S. producers, their position on the petition, location of production, and share of reported production, 2012-14

Firm	Position on petition	Production location(s)	Share of production (percent)
Tenax[1]	Support	Baltimore, Maryland Evergreen, Alabama	***
Tensar[2]	Support	Morrow, Georgia	***
Total			100.0

[1] Tenax is ***.
[2] Tensar is ***.

Source: Compiled from data submitted in response to Commission questionnaires.

Producers were asked to report any changes in operations since January 2012. Tenax reported that ***. Tensar indicated that it ***. Tensar also stated that it ***. In addition, Tensar noted that in 2016, it has had to cut back from a seven-day work week to a five and a half day work week.[1]

[1] Conference transcript, p. 56 (Gerrish).

U.S. PRODUCTION, CAPACITY, AND CAPACITY UTILIZATION

Table III-2 and figure III-1 present Tensar's production, capacity, and capacity utilization. Tensar's capacity increased in 2012 by *** percent when it expanded its capacity for biaxial integral geogrid production.[2] Production capacity is based on operating ***. Reported production decreased by *** percent between 2012 and 2014 and was *** percent higher in interim 2015 than in interim 2014.

Table III-2
Biaxial integral geogrid: Tensar's production, capacity, and capacity utilization, 2012-14, January to September 2014, and January to September 2015

* * * * * * *

Figure III-1
Biaxial integral geogrid: Tensar's production, capacity, and capacity utilization, 2012-14, January to September 2014, and January to September 2015

* * * * * * *

The Commission asked the domestic producers to report constraints on their capacity to produce biaxial integral geogrid. Tenax stated that ***, while Tensar stated that ***.

Tensar produces other geogrid products, including uniaxial and TriAx.[3] However, Tensar states that while biaxial integral geogrid and TriAx can be produced on the same production line, there are vast differences in the production process for the two products.[4] In its questionnaire response, Tensar ***. Tenax, ***. Tenax uses a slightly different production process than Tensar, but the fundamentals and the materials are similar and the resulting product is the same.[5]

U.S. PRODUCERS' U.S. SHIPMENTS AND EXPORTS

Table III-3 presents Tensar's U.S. shipments, export shipments, and total shipments. The quantity of Tensar's U.S. shipments decreased from 2012 to 2014 by *** percent, and was *** percent higher in the 2015 interim period than the 2014 interim period. The value of Tensar's U.S. shipments decreased as well from 2012 to 2014 by *** percent, and was *** percent higher in the 2015 interim period than the 2014 interim period. The unit values of U.S. shipments decreased by *** percent from 2012 to 2013 and *** from 2013 to 2014. Tensar reported exporting to ***. The quantity of export shipments decreased by *** percent from

[2] Conference transcript, p. 55(Gerrish).
[3] Conference transcript, p. 49 (Gerrish).
[4] Conference transcript, p. 52 (Gerrish).
[5] Conference transcript, p. 35 (Gee), and Staff telephone interview with ***.

2012 to 2014 and were *** percent lower in the 2015 interim period than the 2014 interim period.

Table III-3
Biaxial integral geogrid: Tensar's U.S. shipments, exports shipments, and total shipments, 2012-14, January to September 2014, and January to September 2015

* * * * * * *

U.S. PRODUCERS' INVENTORIES

Table III-4 presents Tensar's end-of-period inventories and the ratio of these inventories to Tensar's production, U.S. shipments, and total shipments**.** Tensar's inventories of biaxial integral geogrid increased by *** percent from 2012 to 2014 and also were *** percent higher during the 2015 interim period than during the 2014 interim period. Inventories relative to total shipments increased by *** percentage points from 2012 to 2014 and were *** percentage points lower during the interim periods.

Table III-4
Biaxial integral geogrid: Tensar's inventories, 2012-14, January to September 2014, and January to September 2015

* * * * * * *

U.S. PRODUCERS' IMPORTS AND PURCHASES

Tensar's imports of biaxial geogrid are presented in table III-5. Tensar explains that ***. Respondents state that Tensar suffered a fire at its facility in 2011 and would support the U.S. market with equivalent product imported from China and the United Kingdom.[6]

Table III-5
Biaxial integral geogrid: Tensar's U.S. production and imports, 2012-14, January to September 2014, and January to September 2015

* * * * * * *

[6] Conference transcript, p. 126 (Dowdell).

U.S. EMPLOYMENT, WAGES, AND PRODUCTIVITY

Table III-6 shows Tensar's employment-related data. The level of production-related workers (PRWs) decreased by *** percent from 2012 to 2014 and was *** percent lower during the 2015 interim period than during the 2014 interim period. Hours worked per PRW decreased from 2012 to 2014, while productivity *** between 2012 and 2013, but decreased *** from 2012 to 2014.

Table III-6
Biaxial integral geogrid: Tensar's average number of production and related workers, hours worked, wages paid to such employees, hourly wages, productivity, and unit labor costs, 2012-14, January-September 2014, and January-September 2015

* * * * * * *

PART IV: U.S. IMPORTS, APPARENT U.S. CONSUMPTION, AND MARKET SHARES

U.S. IMPORTERS

The Commission issued importer questionnaires to 24 firms believed to be importers of subject biaxial integral geogrid, as well as to all U.S. producers of the subject merchandise.[1] Usable questionnaire responses were received from 13 companies, representing the vast majority of U.S. imports of biaxial integral geogrid from China between January 2012 and September 2015.[2] Table IV-1 lists all responding U.S. importers of biaxial integral geogrid from China and other sources, their headquarters, and their shares of U.S. imports, in January 2012 through September 2015.

[1] The Commission issued questionnaires to all firms identified in the petition as importers of biaxial integral geogrid.

[2] Coverage was based on reported questionnaire import data of 46.9 million square yards in January 2011 through September 2015, versus *** square yards as reported in the petition. Pounds of imports were converted to square yards using Tensar's conversion factor of *** square yards per pound. Petition, p. 33 and exh. I-43. Respondents note that the industry does not make pricing or production decisions on a per pound basis, and thus these conversion estimates have little to no probative value. Respondents' postconference brief, Answers to Questions from the February 3, 2016 Staff Conference, p. 5.

Table IV-1
Biaxial integral geogrid: U.S. importers, their headquarters, and share of total imports by source, January 2012 through September 2015

Firm	Headquarters	Share of imports by source (*percent*)		
		China	All other sources	Total imports
Contech Engineered Solutions LLC[1]	West Chester, OH	***	***	***
DECA Global LLC	Memphis, TN	***	***	***
Glen Raven, Inc.	Burlington, NC	***	***	***
GSE Environmental, LLC[2]	Houston, TX	***	***	***
Hanes Companies, Inc.[3]	Winston-Salem, NC	***	***	***
Hill Country Site Supply, LLC	Austin, TX	***	***	***
L&M Bag & Supply Co. Inc.	Willacoochee, GA	***	***	***
Maccaferri, Inc.[4]	Williamsport, MD	***	***	***
Pacific GeoSource Inc DBA Alliance Geosynthetics Inc.	Drain, OR	***	***	***
SEK Corporation	St Charles, IL	***	***	***
TenCate Geosynthetics	Pendergrass, GA	***	***	***
Tensar Corporation	Alpharetta, GA	***	***	***
Willacoochee Industrial Fabrics	Willacoochee, GA	***	***	***
Total		100.0	100.0	100.0

[1] Contech is ***.
[2] GSE Environmental is ***.
[3] Hanes is ***.
[4] Maccaferri is ***.

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. IMPORTS

Table IV-2 and figure IV-1 present data for U.S. imports of biaxial integral geogrid from China and all other sources. U.S. import data in this report are based on questionnaire responses. The quantity of imports from China increased by 94.3 percent from 2012 to 2014, and was 5.2 percent higher in interim 2015 than in interim 2014. The value of imports from China increased by 94.8 percent from 2012 to 2014, and was slightly higher in interim 2015 than in interim 2014.

Table IV-2
Biaxial integral geogrid: U.S. imports, by source, 2012-14, January to September 2014, and January to September 2015

Item	Calendar year			January to September	
	2012	2013	2014	2014	2015
	Quantity (*1,000 square yards*)				
U.S. imports from.--China	8,035	8,846	15,608	13,702	14,408
All other sources	***	***	***	***	***
Total U.S. imports	***	***	***	***	***
	Value (*1,000 dollars*)				
U.S. imports from.--China	4,749	5,236	9,249	8,269	8,273
All other sources	***	***	***	***	***
Total U.S. imports	***	***	***	***	***
	Unit value (*dollars per square yard*)				
U.S. imports from.--China	0.59	0.59	0.59	0.60	0.57
All other sources	***	***	***	***	***
Total U.S. imports	***	***	***	***	***
	Share of quantity (*percent*)				
U.S. imports from.--China	***	***	***	***	***
All other sources	***	***	***	***	***
Total U.S. imports	***	***	***	***	***
	Share of value (*percent*)				
U.S. imports from.--China	***	***	***	***	***
All other sources	***	***	***	***	***
Total U.S. imports	***	***	***	***	***
	Ratio to U.S. production				
U.S. imports from.--China	***	***	***	***	***
All other sources	***	***	***	***	***
Total U.S. imports	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Figure IV-1
Biaxial integral geogrid: U.S. import volumes and unit values, 2012-14, January to September 2014, and January to September 2015

* * * * * * *

NEGLIGIBILITY

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[3] Negligible imports are generally defined in the Tariff Act of 1930, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[4] Imports from China accounted for 100.0 percent of total imports of biaxial integral geogrid by quantity during 2014.

APPARENT U.S. CONSUMPTION AND MARKET SHARES

Table IV-3 and figure IV-2 present data on apparent U.S. consumption and market shares for biaxial integral geogrid. Apparent consumption based on quantity, increased by *** percent from 2012 to 2014, and was *** percent higher in interim 2015 than in interim 2014. U.S. producers' share of U.S. consumption, based on quantity, decreased from 2012 to 2014 by *** percentage points, and was *** percentage points higher in interim 2015 compared with interim 2015. The market share of imports of biaxial integral geogrid from China increased from 2012 to 2014 by *** percentage points; the market share of subject imports was *** percentage points lower in interim 2015 than in interim 2014.

[3] Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

[4] Section 771 (24) of the Act (19 U.S.C § 1677(24)).

Table IV-3
Biaxial integral geogrid: Apparent U.S. consumption and market shares, 2012-14, January to September 2014, and January to September 2015

Item	Calendar year			January to September	
	2012	2013	2014	2014	2015
	Quantity (*1,000 square yards*)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. importers' U.S. shipments from.--China	3,769	8,404	12,919	10,028	13,829
All other sources	***	***	***	***	***
Total U.S. importers' U.S. shipments	***	***	***	***	***
Apparent U.S. consumption	***	***	***	***	***
	Value (*1,000 dollars*)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. importers' U.S. shipments from.--China	4,014	9,070	11,941	9,202	12,776
All other sources	***	***	***	***	***
Total U.S. importers' U.S. shipments	***	***	***	***	***
Apparent U.S. consumption	***	***	***	***	***
	Share of quantity (*percent*)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. importers' U.S. shipments from.--China	***	***	***	***	***
All other sources	***	***	***	***	***
Total U.S. importers' U.S. shipments	***	***	***	***	***
	Share of value (*percent*)				
U.S. producers' U.S. shipments	***	***	***	***	***
U.S. importers' U.S. shipments from.--China	***	***	***	***	***
All other sources	***	***	***	***	***
Total U.S. importers' U.S. shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Figure IV-2
Biaxial integral geogrid: Apparent U.S. consumption, 2012-14, January to September 2014, and January to September 2015

* * * * * * *

PART V: PRICING DATA

FACTORS AFFECTING PRICES

Raw material costs

The major raw material used in biaxial integral geogrid production is polypropylene resin. As shown in figure V-1, polypropylene prices fluctuated upwards during January 2012-October 2014 and declined by 41 percent from October 2014 to September 2015.

Figure V-1
Polypropylene: North American polypropylene prices

* * * * * * *

U.S. producer Tensar reported that polypropylene resin prices increased from 2012-14, and declined in 2015,[1] while Tenax reported that raw material prices ***. Among importers, 7 reported that raw material prices have fluctuated since January 1, 2012 and 2 reported that they have decreased.

U.S. inland transportation costs

U.S. producers *** and most importers reported that they typically arrange transportation to their customers. Most importers reported that the product is shipped from the storage facility (8 firms) rather than point of importation (3 firms). Tensar reported that U.S. inland transportation costs accounted for *** percent of the total delivered cost while importers reported costs of 1 to 10 percent.

PRICING PRACTICES

Pricing methods

Tensar reported setting prices using *** and Tenax reported using ***. Importers reported setting prices primarily using transaction-by-transaction negotiations, although some importers reported using set price lists (table V-1).

[1] Conference transcript, p. 34 (Gee).

Table V-1

Biaxial integral geogrid: U.S. producers and importers reported price setting methods, by number of responding firms[1]

Method	U.S. producers	U.S. importers
Transaction-by-transaction	***	10
Contract	***	1
Set price list	***	4
Other	***	2

[1] The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

Source: Compiled from data submitted in response to Commission questionnaires.

Tensar reported that ***. At the staff conference, Tensar reported that its private label sales are shipment-by-shipment for 30 to 60 days of supply rather than long-term contracts.[2] For its branded product, Tensar has contracts with its exclusive distributors for distribution rights, but pricing is negotiated sale-by-sale.[3]

U.S. producer Tenax reported that ***. Importers reported that most sales were on a spot basis (table V-2). Only one importer reported contracts in 2014: *** reported short-term contracts averaging 90 days.

Table V-2

Biaxial integral geogrid: U.S. producers' and importers' shares of U.S. commercial shipments by type of sale, 2014

Method	U.S. producers[1]	Subject U.S. importers
	Share (percent)	
Long-term contracts	***	0.0
Annual contract	***	0.0
Short-term contracts	***	7.1
Spot sales	***	92.9

[1] ***.

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

Source: Compiled from data submitted in response to Commission questionnaires.

Sales terms and discounts

U.S. producers Tensar and Tenax typically quote prices on *** basis. Importers typically quote prices on an f.o.b. basis although some reported also quoting on a delivered basis. Tensar offers *** discounts while Tenax reported ***. Most importers (8 of 11) reported no discount

[2] Conference transcript, p. 73 (Lawrence).

[3] Tensar reported that its distributors will approach Tensar to meet Chinese prices offered by the distributors' competitors. Conference transcript, p. 73 (Lawrence and Gerrish).

policy, although 3 reported quantity discounts, 1 reported total volume discounts, and 1 reported other discounts. *** reported that its sales prices vary by volume and that it offers rebate programs for select customers.

Tensar reported sales terms of *** and Tenax reported terms of ***. Most importers reported sales terms of net 30 days. Importer *** reported that its terms vary greatly depending on the account and the order. Importer *** also reported that sales terms vary by customer.

PRICE DATA

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following biaxial integral geogrid products shipped to unrelated U.S. distributors and to unrelated U.S. end users/contractors during January 2012-September 2015.

Product 1.-- Biaxial integral geogrid, made from polypropylene, commonly known as "Type 1" or "BX 1100," with a minimum rib thickness of 0.03 inches, and an ultimate tensile strength of 850 lb/ft in the longitudinal direction (also known as "machine direction" or "MD Value") and 1,300 lb/ft in the transverse direction (also known as "cross machine direction" or "XMD Value").

Product 2.-- Biaxial integral geogrid, made from polypropylene, commonly known as "Type 2" or "BX 1200," with a minimum rib thickness of 0.05 inches, and an ultimate tensile strength of 1,310 lb/ft for the MD Value, and 1,970 lb/ft for the XMD Value.

One U.S. producer and 11 importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[4] Pricing data reported by these firms accounted for approximately *** percent of Tensar's commercial U.S. shipments of biaxial integral geogrids and 72.7 percent of U.S. commercial shipments of imports from China during January 2012-September 2015.

Price data for products 1 and 2 to distributors and to contractors are presented in tables V-3 to V-6 and figures V-2 to V-5. U.S. producer data are shown as totals as well as separately for Tensar-branded product sales and for Tensar's private label sales. Margins are shown for comparisons to total U.S. producer sales and also to Tensar-brand sales only. Tensar asserts that its private label sales to distributors are at a different level of trade than importers' sales to distributors since Tensar sells to firms that import from China and resell at markups of 20

[4] Per-unit pricing data are calculated from total quantity and total value data provided by U.S. producers and importers. The precision and variation of these figures may be affected by rounding, limited quantities, and producer or importer estimates.

percent or more.[5] Importer questionnaire data show that in 2014, U.S. import commercial shipment unit values were 56 percent higher than import unit values.

Tensar's prices for its Tensar-branded product were *** percent higher than its private label prices for product 1 and *** percent higher for product 2.[6] Tensar's private labels sales accounted for *** percent of its total reported pricing data and its Tensar-branded sales accounted for *** percent.

Table V-3

Biaxial integral geogrid: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1] sold to distributors, and margins of underselling/(overselling), by quarters, January 2012-September 2015

* * * * * * *

Table V-4

Biaxial integral geogrid: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1] sold to distributors, and margins of underselling/(overselling), by quarters, January 2012-September 2015

* * * * * * *

Table V-5

Biaxial integral geogrid: Weighted-average f.o.b. prices and quantities of domestic and imported product 1[1] sold to end users/contractors, and margins of underselling/(overselling), by quarters, January 2012-September 2015

* * * * * * *

Table V-6

Biaxial integral geogrid: Weighted-average f.o.b. prices and quantities of domestic and imported product 2[1] sold to end users/contractors, and margins of underselling/(overselling), by quarters, January 2012-September 2015

* * * * * * *

Figure V-2

Biaxial integral geogrid: Weighted-average prices and quantities of domestic and imported product 1 sold to distributors, by quarters, January 2012-September 2015

* * * * * * *

[5] Conference transcript, pp. 74-75 (Gerrish). ***.

[6] The price differences between the Tensar's branded product and its private label product were largest in 2012.

Figure V-3

Biaxial integral geogrid: Weighted-average prices and quantities of domestic and imported product 2 sold to distributors, by quarters, January 2012-September 2015

* * * * * * *

Figure V-4

Biaxial integral geogrid: Weighted-average prices and quantities of domestic and imported product 1 sold to end users/contractors, by quarters, January 2012-September 2015

* * * * * * *

Figure V-5

Biaxial integral geogrid: Weighted-average prices and quantities of domestic and imported product 2 sold to end users/contractors, by quarters, January 2012-September 2015

* * * * * * *

Price trends

Prices decreased during January 2012-September 2015. Table V-7 summarizes the price trends, by country and by product. As shown in the table, domestic price decreases ranged from 12.1 to 60.2 percent during January 2012-September 2015. For Tensar-branded product, domestic price decreases ranged from *** to *** percent and for private label product, domestic price decreases ranged from *** to *** percent. There were no subject imports in the first quarter of 2012. Subject import price decreases ranged from 7.2 to 41.6 percent during June 2012-September 2015.

Tensar reported that it reduced biaxial integral geogrid prices prior to the expiration of the patent in May 2012 in anticipation of changing market competition.[7] Respondents asserted that Tensar "aggressively" lowered its pricing by offering private label product through distributor SynTec prior to the patent expiration and the entrance of imports.[8] Tensar also reported a shift in the relative pricing of Type 1 and Type 2 biaxial integral geogrid when

[7] It further reported that its prices were already somewhat restrained by prices of alternative products such as aggregate, chemical stabilization, and woven and knitted products. Conference transcript, p. 91 (Gerrish).

[8] Conference transcript, p. 134 (Frey). SynTec was acquired by GSE in February 2013. GSE website, http://www.gseworld.com/About-Us/News-and-Events/Press-Releases/GSE-Environmental-Announces-Acquisition-of-SynTec-LLC/, retrieved Feb. 11, 2016. Importer *** reported that 6 months prior to the patent expiration, Tensar lowered is price by approximately 52 percent through its distributor network. It also reported that after the patent expiration, "there was an expected downward trend in market pricing due to increased competition at the distributor level, with producers aligning with distributors and distributors aligning with end-users." *** importer questionnaire response, question III-3.

imports entered the market, with the higher-performing Type 2 prices coming closer to Type 1 prices.[9]

Table V-7
Biaxial integral geogrid: Summary of weighted-average f.o.b. prices for products 1 and 2 from the United States and China

* * * * * * *

Price comparisons

Table V-8 shows price comparisons based on total U.S. producer sales of each pricing product. As shown in the table, prices for biaxial integral geogrid imported from China were below those for U.S.-produced product in 17 of 51 instances (4.7 million square yards); margins of underselling ranged from 0.3 to 64.0 percent. In the remaining 34 instances (21.9 million square yards), prices for biaxial integral geogrid from China were between 1.2 and 15.4 percent above prices for the domestic product.

Table V-9 shows price comparisons based on U.S. producer sales of Tensar-branded product. As shown in the table, prices for biaxial integral geogrid imported from China were below those for U.S.-produced Tensar-branded product in 34 of 51 instances (18.0 million square yards); margins of underselling ranged from 0.0 to 64.0 percent. In the remaining 17 instances (8.5 million square yards), prices for biaxial integral geogrid from China were between 1.2 and 8.8 percent above prices for the Tensar-branded domestic product.

LOST SALES AND LOST REVENUE

Tensar ***, reported that that they had to reduce prices and roll back announced price increases, and that they had lost sales. Tensar submitted lost sale and lost revenue allegations; ***. Tensar identified 10 firms where it lost sales or revenue (all 10 consisting of both lost sale and lost revenue allegations).[10] It reported that its lost sales at these purchasers totaled *** square yards. Most of the allegations were in 2014 and 2015, although there were a few in 2012 and 2013 and one in 2016. The method of sale was identified as “individual sale.” Specific product types identified were BX1100 (Type 1), BX1200 (Type 2), BX4100, BX4200, TXDOT Type 1 and Type 2, and Type 2A.

[9] Tensar’s representative further stated that there was a shift in sales from Type 1 to Type 2 but since late 2012 to end of 2013, sales have shifted back toward Type 1 and other lighter-weight products. Conference transcript, pp. 80-81 (Gee).

[10] ***. Staff telephone interview with ***.

Table V-8

Biaxial integral geogrid: Instances of underselling/overselling and the range and average of margins, January 2012-September 2015 (U.S. producer total sales)

Product	Underselling				
	Number of quarters	Quantity (square yards)	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1 (distributors)	***	***	***	***	***
Product 2 (distributors)	***	***	***	***	***
Product 1 (end users/contractors)	***	***	***	***	***
Product 2 (end users/contractors)	***	***	***	***	***
Total, China underselling	17	4,659,669	23.5	0.3	64.0
Product	**(Overselling)**				
	Number of quarters	**Quantity (square yards)**	**Average margin (percent)**	**Margin Range (percent)**	
				Min	**Max**
Product 1 (distributors)	***	***	***	***	***
Product 2 (distributors)	***	***	***	***	***
Product 1 (end users/contractors)	***	***	***	***	***
Product 2 (end users/contractors)	***	***	***	***	***
Total, China overselling	34	21,856,024	(13.9)	(1.2)	(52.4)

[1] These data include only quarters in which there is a comparison between the U.S. and subject product.

Source: Compiled from data submitted in response to Commission questionnaires.

Table V-9

Biaxial integral geogrid: Instances of underselling/overselling and the range and average of margins, January 2012-September 2015 (U.S. producer Tensar-branded sales only)

Product	Underselling				
	Number of quarters	Quantity (square yards)	Average margin (percent)	Margin Range (percent)	
				Min	Max
Product 1 (distributors)	***	***	***	***	***
Product 2 (distributors)	***	***	***	***	***
Product 1 (end users/contractors)	***	***	***	***	***
Product 2 (end users/contractors)	***	***	***	***	***
Total, China underselling	34	18,015,274	15.0	0.0	64.0
Product	**(Overselling)**				
	Number of quarters	**Quantity (square yards)**	**Average margin (percent)**	**Margin Range (percent)**	
				Min	**Max**
Product 1 (distributors)	***	***	***	***	***
Product 2 (distributors)	***	***	***	***	***
Product 1 (end users/contractors)	***	***	***	***	***
Product 2 (end users/contractors)	***	***	***	***	***
Total, China overselling	17	8,500,419	(10.8)	(1.2)	(52.4)

[1] These data include only quarters in which there is a comparison between the U.S. and subject product.

Source: Compiled from data submitted in response to Commission questionnaires.

Staff sent lost sales and lost revenue surveys to 10 purchasers and received responses from 5 purchasers. Responding purchasers reported purchasing 11.2 million square yards of biaxial integral geogrid during 2012-14 (table V-9). During 2014, these five purchasers purchased 98 percent from U.S. producers and 2 percent from China. Of the responding purchasers, 2 reported decreasing purchases from domestic producers, 2 reported increasing purchases, and 1 reported no change.[11] Explanations for increasing purchases of domestic product included an upturn in the housing and construction markets, and increased sales to a particular contractor. Explanations for decreasing purchases of domestic product included Chinese pricing, competition with Chinese product from *** in 2015, and a downturn in the Texas market.

None of the 5 responding purchasers reported that they had shifted purchases of biaxial integral geogrid from U.S. producers to subject imports since January 1, 2012 (table V-10). Three of the 5 responding purchasers reported that U.S. producers had reduced prices in order to compete with lower-priced imports from China (table V-11; 2 reported that they did not know). The reported estimated price reduction ranged from 0.3 to 72.5 percent.

Table V-9
Biaxial integral geogrid: Purchasers' responses to purchasing patterns

* * * * * * *

Table V-10
Biaxial integral geogrid: Purchasers' responses to shifting supply sources

* * * * * * *

Table V-11
Biaxial integral geogrid: Purchasers' responses to U.S. producer price reductions

* * * * * * *

[11] Of the 5 responding purchasers, 2 purchasers indicated that they did not know the source of the biaxial integral geogrid they purchased.

PART VI: FINANCIAL EXPERIENCE OF U.S. PRODUCERS

BACKGROUND

One U.S. producer, Tensar, reported usable financial results on its biaxial integral geogrid operations.[1] Tensar's U.S. biaxial geogrid operations are part of its ***. Biaxial integral geogrid revenue primarily reflects U.S. commercial sales, but also includes a small share of commercial exports.[2]

As noted in Part III of this report, Tensar expanded its biaxial integral geogrid operations during 2012 (see also *Capital expenditures and research and development* section) and reported production curtailments and employee layoffs during 2014 and 2015. The impact of production curtailments and employee layoffs on the company's reported financial results is discussed in the *Cost of goods sold and gross profit* section.

OPERATIONS ON BIAXIAL INTEGRAL GEOGRID

Table VI-1 presents the aggregate income-and-loss data for the biaxial integral geogrid operations of Tensar. Table VI-2 presents a corresponding variance analysis of the reported financial results.[3]

---

[1] Another U.S. producer of biaxial integral geogrid, Tenax, reportedly uses a somewhat different production method as compared to Tensar. Conference transcript, p. 35 (Gee). ***. USITC auditor preliminary-phase notes.

[2] Petitioner's postconference brief, exh. 1 (response to staff questions), p. 12. Tensar reported its biaxial integral geogrid financial results on the basis of generally accepted accounting principles (GAAP) and for calendar-year periods.

[3] The Commission's variance analysis is calculated in three parts: Sales variance, cost of goods sold (COGS) variance, and SG&A expenses variance. Each part consists of a price variance (in the case of the sales variance) or a cost or expense variance (in the case of the COGS and SG&A expenses variance), and a volume variance. The sales or cost/expense variance is calculated as the change in unit price or per-unit cost/expense times the new volume, while the volume variance is calculated as the change in volume times the old unit price or per-unit cost/expense. As summarized at the bottom of table VI-2, the price variance is from sales, the cost/expense variance is the sum of those items from the COGS and SG&A variances, respectively, and the volume variance is the sum of the volume components of the net sales, COGS, and SG&A expenses variances. In general, the utility of the Commission's variance analysis is enhanced when product mix remains the same throughout the period. While there were reportedly some fluctuations in product mix during the period, petitioner attributed period-to-period changes in average sales value primarily to pricing. Conference transcript, p. 87 (Gee, Lawrence). Petitioner's postconference brief, Exhibit 1 (response to staff questions), pp. 8-9.

Table VI-1
Biaxial integral geogrid: Results of operations of Tensar, 2012-14, January-September 2014, and January-September 2015

* * * * * * *

Table VI-2
Biaxial integral geogrid: Variance analysis on the operations of Tensar, 2012-14, January-September 2014, and January-September 2015

* * * * * * *

Sales volume and value

Testimony at the Commission's staff conference indicated that overall demand for biaxial integral geogrid was positive throughout the period and that changes in Tensar's sales volume (negative and positive) were largely a function of corresponding changes in average sales value; e.g., the only positive price variance (2013-14) was accompanied by the largest full-year decline in volume,[4] while the higher level of interim 2015 sales volume compared to interim 2014 was attributed to a reduced average sales value.[5]

As shown in table VI-1, sales declined in each full-year period. The revenue section of the variance analysis (table VI-2) shows that the underlying drivers of this decline were not uniform; i.e., while the 2012-13 decline in revenue was due to a combination of both a negative price variance and a negative volume variance, the 2013-14 decline in revenue was due entirely to a negative volume variance which was partially offset by a small positive price variance. In contrast with the full-year period, interim 2015 revenue was higher compared to interim 2014 due to a positive sales volume variance which was partially offset by a negative price variance.

Table VI-1 shows that average sales value fluctuated lower during the period of investigation. With regard to this pattern, petitioner indicated that average sales value and the cost of polypropylene resin, the primary raw material cost, were not directionally correlated during full-year 2012-14. In contrast and at least to some extent, they were directionally

[4] Tensar stated in its postconference brief that ***. Petitioner's postconference brief, exh. 79.

[5] As described by a Tensar official, "{i}n 2015 we slashed prices even more and reinvigorated our private label program in a last-ditch effort to regain some of our market share from the Chinese. Our sales volume has improved somewhat, but at a huge cost in the form of another severe blow to our bottom line as you can see from our data." Conference transcript, p. 23 (Lawrence). Conference transcript, pp. 96-97 (Gerrish).

correlated at the end of the period; e.g., average sales value and the cost of polypropylene resin were both lower in interim 2015 compared to interim 2014.[6]

Cost of goods sold and gross profit

While the components of biaxial integral geogrid COGS are not presented separately in table VI-1 (see footnote 6), polypropylene resin was identified as the primary driver of overall raw material cost. A secondary raw material, coloring agent black masterbatch, was also identified as a component of raw material cost.[7] Based on the information reported in Tensar's U.S. producer questionnaire (see footnote 6 regarding methodology), raw materials represented (*** percent of COGS, followed by other factory costs (*** percent), and then direct labor (*** percent).[8]

Other factory costs, the second largest component of COGS, reflects ". . . depreciation, indirect labor wages and benefits (quality control, maintenance, management, and administration wages and benefits), utilities, taxes and insurance, and operating supplies."[9] Tensar reported that 60 percent of other factory costs are primarily fixed, 25 percent are mixed (fixed and variable), and 15 percent are considered variable. As described by the company, "{t}he cost of production is greatly impacted by changes in production volume. Accordingly, the slow-down in our production caused by sales lost to unfairly-traded subject imports caused these costs to increase on a per unit basis."[10]

Table VI-1 shows that average COGS increased to its highest level in 2014 and remained at this level during interim 2015. In general, higher average COGS in 2014 is consistent with a combination of higher average raw material costs and reduced fixed cost absorption which, all thing being equal, would have yielded higher average other factory costs; e.g., the price paid by Tensar for polypropylene resin increased to its *** in 2014 (see footnote 8) and annual production of biaxial integral geogrid was *** in 2014 (see table III-5 in Part III).

---

[6] Conference transcript, p. 88 (Lawrence). As confirmed by the company in its postconference brief, Tensar used a ***. Petitioner's postconference brief, exh. 79. ***. USITC auditor preliminary-phase notes.

[7] Conference transcript, p. 35 (Gee).

[8] The cost of polypropylene resin reportedly increased throughout the full-year period and then declined in 2015. Conference transcript (Gee), p. 34. In its postconference brief, Tensar reported the following average per pound prices paid for polypropylene resin: ***. Petitioner's postconference brief, exh. 79. Tensar further noted that ". . . the change in our raw material prices over the POI is consistent with polypropylene resin prices North America and Europe during this time. All of these data show that just as raw material prices rose from 2012 through 2014, Tensar was forced to slash its prices as a result of the dumped and subsidized subject imports that were flooding the market. Despite the decline in raw material prices in 2015, Tensar was unable to benefit." Ibid.

[9] Petitioner's postconference brief, exh. 79.

[10] Ibid.

When asked to comment on the extent to which costs associated with production curtailments and employee layoffs (see Part III) directly or indirectly impacted biaxial integral geogrid financial results, Tensar stated that ***.[11]

Table VI-1 shows that gross profit declined on an absolute basis throughout the period. With the exception of the interim period, when sales volume was higher in interim 2015 compared to interim 2014, the decline in absolute gross profit in part reflects lower sales volume. The other component of the decline reflects the progressive contraction of gross profit ratios (total gross profit divided by total revenue). During the full-year period this contraction was due to changes in average sales value and COGS which were directionally the same but not proportional: in 2013 average sales value declined *** percent while average COGS declined only *** percent; in 2014 average sales value increased *** percent while average COGS increased *** percent. In contrast, average sales value and average COGS moved in opposite directions during the interim period: interim 2015 average sales value was *** percent lower compared to interim 2014 while corresponding average COGS was *** percent higher.

SG&A expenses and operating income or loss

According to Tensar, period-to-period changes in SG&A expenses primarily reflect ***.[12] As shown in table VI-1, the decline in 2013 SG&A expenses was proportionally greater than the decline in revenue which resulted in a lower 2013 SG&A ratio (total SG&A expenses divided by revenue).

While SG&A ratios continued to decline somewhat after 2013, the effect in terms of offsetting the corresponding decline in gross profit was minimal. As such, the directional pattern of operating profit, which declined throughout the period and then was negative in interim 2015, was largely determined at the gross profit level. Table VI-1 shows that Tensar reported its *** full-year operating profit ratio (operating profit divided by revenue) in 2012. According to Tensar, the operating profit ratio generated for 2012 (*** percent) was in a normal/expected range for biaxial products.[13]

Interest expense, other expenses, and net income or loss

Below operating income, the *** item reported by Tensar was interest expense which *** throughout the period (see table VI-1).[14] To the extent that full-year operating results were positive, albeit declining, the company's pattern of ***.[15]

---

[11] Petitioner's postconference brief, exh. 1 (response to staff questions), pp. 10-11. ***. Ibid.

[12] Tensar stated that ***. Petitioner's postconference brief, exh. 79.

[13] Ibid.

[14] ***.

[15] Tensar reported that its financial results *** separately identified material non-recurring items. Tensar U.S. producer questionnaire response to III-10. As noted in the *Cost of goods sold and gross profit* section, Tensar reported that costs and expenses associated with production curtailments and employee layoffs are reflected in ***.

CAPITAL EXPENDITURES AND RESEARCH AND DEVELOPMENT EXPENSES

Table VI-3 presents Tensar's capital expenditures and research and development (R&D) expenses related to operations on biaxial integral geogrid.

Table VI-3
Biaxial integral geogrid: Capital expenditures and research and development (R&D) expenses of Tensar, 2012-14, January-September 2014, January-September 2015

* * * * * * *

The highest level of annual capital expenditures was reported in 2012 which primarily reflects expansion of capacity described in Part III of this report. As described by Tensar, ***.[16] ***.[17]

Tensar reported R&D expenses throughout the period. According to Tensar, ***.[18]

ASSETS AND RETURN ON INVESTMENT

Table VI-4 presents data on the U.S. producer's total assets, asset turnover (sales divided by total assets), and return on assets.[19]

Table VI-4
Biaxial integral geogrid: Tensar's total assets, asset turnover, and return on assets, 2012-14

* * * * * * *

[16] Tensar U.S. producer questionnaire response to III-13 (note 1).

[17] Tensar stated that capital expenditures were ***. Petitioner's postconference brief, exh. 1 (response to staff questions), p. 10.

[18] Tensar U.S. producer questionnaire response to III-13 (note 2).

[19] With respect to a company's overall operations, staff notes that a total asset value (i.e., the bottom line number on the asset side of a company's balance sheet) reflects an aggregation of a number of assets which in many instances are not product specific. Accordingly, high-level allocation factors presumably were required in order to report a total asset value specific to U.S. biaxial integral grid operations. As such, it should be noted that the pattern of asset values reported can reflect changes in underlying asset account balances, as well as period-to-period variations in relevant allocation factors.

CAPITAL AND INVESTMENT

The Commission requested U.S. producers of biaxial integral geogrid to describe any actual or potential negative effects on their return on investment or their growth, investment, ability to raise capital, existing development and production efforts (including efforts to develop a derivative or more advanced version of the product), or the scale of capital investments as a result of imports of biaxial integral geogrid from China. Table VI-5 tabulates the responses on actual negative effects on investment, growth and development, as well as anticipated negative effects. Table VI-6 presents the narrative responses of U.S. producers regarding actual and anticipated negative effects on investment, growth and development.[20]

Table VI-5
Biaxial integral geogrid: Negative effects of imports from subject sources on investment, growth, and development since January 1, 2012

* * * * * * *

Table VI-6
Biaxial integral geogrid: Narrative responses of U.S. producers regarding actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2012

* * * * * * *

[20] ***.

PART VII: THREAT CONSIDERATIONS AND INFORMATION ON NONSUBJECT COUNTRIES

Section 771(7)(F)(i) of the Act (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 subject merchandise, the Commission shall consider, among other relevant economic factors*[1]*--*
>
> *(I) if a countervailable 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 countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,*
>
> *(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,*
>
> *(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,*
>
> *(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,*
>
> *(V) inventories of the subject merchandise,*

---

[1] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition."

(VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,

(VII) 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),

(VIII) 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 domestic like product, and

(IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).[2]

Information on the nature of the alleged subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in *Parts IV* and *V*; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in *Part VI*. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

THE INDUSTRY IN CHINA

The petitioner indicates that the biaxial integral geogrid industry in China is comprised of more than 75 Chinese producers and exporters.[3] According to Respondents, there are four

[2] 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 WTO 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."

[3] Conference transcript, p. 27 (Lawrence).

major biaxial integral geogrid producers in China: TMP, BOSTD, Feicheng Lianyi, and Tensar China. There is also one smaller producer, CNBM International, that runs a single production line intermittently to order.[4] Tensar identified six firms[5] in China that it estimates have a combined capacity to produce over *** square yards of the subject merchandise.[6] Responding U.S. importers reported importing from ***.

The Commission issued foreign producers' or exporters' questionnaires to 77 firms believed to produce and/or export biaxial integral geogrid from China.[7] Useable responses to the Commission's questionnaire were received from two firms: Feicheng Lianyi and Tensar China. These firms estimate that their production of biaxial integral geogrid in China account for at least *** percent[8] of overall production in China and *** percent[9] of total exports of biaxial integral geogrid to the United States from China in 2014.

Feicheng Lianyi ***. Tensar China reported ***. It also experienced ***.

Feicheng Lianyi is ***. Tensar China ***.

Table VII- 1 presents information on the biaxial integral geogrid operations of the responding producers and exporters in China.

Table VII-1
Biaxial integral geogrid: Data on industry in China, 2012-14, January to September 2014, and January to September 2015 and projection calendar years 2015 and 2016

* * * * * * *

U.S. INVENTORIES OF IMPORTED MERCHANDISE

Table VII-2 presents data on U.S. importers' reported inventories of biaxial integral geogrid.

[4] Respondents' postconference brief, p. 45, and Answers to Questions from the February 3, 2016 Staff Conference, p. 3.

[5] Those firms and their capacities are: *** – *** SY; TMP – 119.6 million SY; BOSTD – 31.0 million SY; Taian Road Engineering Materials Co., Ltd – 29.9 million SY; Shandong Dageng Proejct Material Co., Ltd. – 107.64 million SY; and Nanchang Teamgo New Materials Co. Ltd. – 38.0 million SY.

[6] Petitioner's postconference brief, p. 40, and exh. 1, pp. 14-20.

[7] The Commission issued questionnaires to all firms identified in the petition as possible foreign producers and/or exporters of biaxial integral geogrid in China.

[8] ***.

[9] ***.

Table VII-2
Biaxial integral geogrid: U.S. importers' inventories, 2012-14, January-September 2014, January-September 2015

Item	Calendar year			January to September	
	2012	2013	2014	2014	2015
Imports from China					
Inventories (*1,000 square yards*)	4,345	4,117	6,476	7,676	7,000
Ratio to U.S. imports (*percent*)	54.1	46.5	41.5	42.0	36.4
Ratio to U.S. shipments of imports (*percent*)	115.3	49.0	50.1	57.4	38.0
Ratio to total shipments of imports (*percent*)	115.3	47.9	48.0	56.1	37.6
Imports from all other sources:					
Inventories (*1,000 square yards*)	***	***	***	***	***
Ratio to U.S. imports (*percent*)	***	***	***	***	***
Ratio to U.S. shipments of imports (*percent*)	***	***	***	***	***
Ratio to total shipments of imports (*percent*)	***	***	***	***	***
Imports from all import sources:					
Inventories (*1,000 square yards*)	***	***	***	***	***
Ratio to U.S. imports (*percent*)	***	***	***	***	***
Ratio to U.S. shipments of imports (*percent*)	***	***	***	***	***
Ratio to total shipments of imports (*percent*)	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. IMPORTERS' OUTSTANDING ORDERS

The Commission requested importers to indicate whether they imported or arranged for the importation of biaxial integral geogrid from China after September 30, 2016. Five responding importers reported that they arranged such shipments. Table VII-3 presents data reported by U.S. importers concerning their arranged imports of biaxial integral geogrid.

Table VII-3
Biaxial integral geogrid: Arranged imports, October 2015 – September 2016

* * * * * * *

ANTIDUMPING OR COUNTERVAILING DUTY ORDERS IN THIRD-COUNTRY MARKETS

There are no known antidumping or countervailing duty investigations on biaxial integral geogrid in third-country markets.

INFORMATION ON NONSUBJECT COUNTRIES

In assessing whether the domestic industry is materially injured or threatened with material injury "by reason of subject imports," the legislative history of the Act states "that the Commission must examine all relevant evidence, including any known factors, other than the dumped or subsidized imports, that may be injuring the domestic industry, and that the Commission must examine those other factors (including non-subject imports) 'to ensure that it is not attributing injury from other sources to the subject imports.'"[10]

Tensar ***. In addition, there is known production in Greece (Thrace Group), Italy (Tenax S.p.A.) and Poland (Peitrucha Group).[11] Exports of biaxial integral geogrid from these countries to the United States are minimal. The petitioner reports that imports of the subject product are exclusively from China.[12] During the period examined, ***.

[10] *Mittal Steel Point Lisas Ltd. v. United States*, Slip Op. 2007-1552 at 17 (Fed. Cir. Sept. 18, 2008), quoting from Statement of Administrative Action on Uruguay Round Agreements Act, H.R. Rep. 103-316, Vol. I at 851-52; *see also Bratsk Aluminum Smelter v. United States*, 444 F.3d 1369 (Fed. Cir. 2006).

[11] Petitioner's postconference brief, exh. 1, p. 12.

[12] Conference transcript, p. 57 (Gerrish).

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, *Federal Register* notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
81 FR 3157 January 20, 2016	*Certain Biaxial Integral Geogrid Products From China; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations*	https://federalregister.gov/a/2016-00931
81 FR 7745 February 16, 2016	*Certain Biaxial Integral Geogrid Products From the People's Republic of China: Initiation of Countervailing Duty Investigation*	https://federalregister.gov/a/2016-03071
81 FR 7755 February 16, 2016	*Certain Biaxial Integral Geogrid Products From the People's Republic of China: Initiation of Antidumping Duty Investigation*	https://federalregister.gov/a/2016-03086

APPENDIX B

CALENDAR OF THE PUBLIC STAFF CONFERENCE

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below appeared as witnesses at the United States International Trade Commission's preliminary conference:

Subject: Certain Biaxial Integral Geogrid Products from China

Inv. Nos.: 701-TA-554 and 731-TA-1309 (Preliminary)

Date and Time: February 3, 2016 - 9:30 a.m.

Sessions were held in connection with these preliminary phase investigations in the Main Hearing Room (Room 101), 500 E Street, S.W., Washington, DC.

OPENING REMARKS:

Petitioners (**Jeffrey Gerrish**, Skadden, Arps, Slate, Meagher & Flom LLP)
Respondents (**Yohai Baisburd**, Dentons US LLP)

In Support of the Imposition of
Antidumping and Countervailing Duty Orders:

Skadden, Arps, slate, Meagher & Flom LLP
Washington, DC
on behalf of

Tensar Corporation

Mike Lawrence, President *and* Chief Executive Officer, Tensar Corporation

Bryan C. Gee, Director of Marketing, Tensar Corporation

Ann Shockley, Director of Materials and SIOP, Tensar Corporation

Robert F. Briggs, Executive Vice President, General Counsel *and* Secretary, Tensar Corporation

Cary Witt, President, GeoSolutions, Inc.

In Support of the Imposition of
Antidumping and Countervailing Duty Orders (continued):

Michael Coleman, Vice President, Coleman-Moore Company

Dave Brooks, President, ACF Environmental

Jeffrey D. Gerrish)
) – OF COUNSEL
Nathaniel B. Bolin)

In Opposition to the Imposition of
Antidumping and Countervailing Duty Orders:

Dentons US LLP
Washington, DC
on behalf of

Hanes Companies, Inc.
Hill Country Site Supply, LLC
Pacific Geosource, Inc. d/b/a Alliance Geosynthetics Inc.

John Dowdell, President, Hanes Companies, Inc.

Bobby Starling, Vice President, Hanes Companies, Inc.

Michael Frey, President, Pacific Geosource, Inc. d/b/a Alliance Geosynthetics Inc.

Clay Cashatt, Vice President, Hill Country Site Supply, LLC

Yohai Baisburd)
Mark P. Lunn) – OF COUNSEL
Daniel Morris)

REBUTTAL/CLOSING REMARKS:

Petitioners (**Jeffrey Gerrish**, Skadden, Arps, Slate, Meagher & Flom LLP)
Respondents (**Yohai Baisburd**, Dentons US LLP)

APPENDIX C

SUMMARY DATA

Table C-1
Biaxial geogrids: Summary data concerning the U.S. market, 2012-14, January to September 2014, and January to September 2015
(Quantity=1,000 square yards; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per square yard; Period changes=percent--exceptions noted)

	Report data					Period changes			
	Calendar year			January to September		Calendar year			Jan-Sept
	2012	2013	2014	2014	2015	2012-14	2012-13	2013-14	2014-15
U.S. consumption quantity:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***
U.S. consumption value:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***
U.S. importers' U.S. shipments of imports from.--									
China:									
Quantity	3,769	8,404	12,918	10,028	13,829	242.8	123.0	53.7	37.9
Value	4,014	9,070	11,941	9,202	12,776	197.5	126.0	31.7	38.8
Unit value	$1.07	$1.08	$0.92	$0.92	$0.92	(13.2)	1.3	(14.3)	0.7
Ending inventory quantity	4,345	4,117	6,476	7,676	7,000	49.0	(5.2)	57.3	(8.8)
All other sources:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Total imports:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
U.S. producers':									
Average capacity quantity	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1)	***	***	***	***	***	***	***	***	***
U.S. shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1)	***	***	***	***	***	***	***	***	***
Production workers	***	***	***	***	***	***	***	***	***
Hours worked (1,000s)	***	***	***	***	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***	***	***	***	***
Hourly wages (dollars)	***	***	***	***	***	***	***	***	***
Productivity (square yards per hour)	***	***	***	***	***	***	***	***	***
Unit labor costs	***	***	***	***	***	***	***	***	***
Net Sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***
Net income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***
Unit net income or (loss)	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***
Net income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***

Notes:

fn1.--Report data are in percent and period changes are in percentage points.

Source: Compiled from data submitted in response to Commission questionniares.

Table C-2
Triaxial geogrids: Summary data concerning the U.S. market, 2012-14, January to September 2014, and January to September 2015
(Quantity=1,000 square yards; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per square yard; Period changes=percent--exceptions noted)

	Report data					Period changes			
	Calendar year			January to September		Calendar year			Jan-Sept
	2012	2013	2014	2014	2015	2012-14	2012-13	2013-14	2014-15
U.S. consumption quantity:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***
U.S. consumption value:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***
U.S. importers' U.S. imports from.--									
China:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Total imports:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
U.S. producers':									
Average capacity quantity	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1)	***	***	***	***	***	***	***	***	***
U.S. shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1)	***	***	***	***	***	***	***	***	***
Net Sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***

Notes:

fn1.--Report data are in percent and period changes are in percentage points.

Source: Compiled from data submitted in response to Commission questionniares.

Table C-3
Biaxial and triaxial geogrids COMBINED: Summary data concerning the U.S. market, 2012-14, January to September 2014, and January to September 2015
(Quantity=1,000 square yards; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per square yard; Period changes=percent--exceptions noted)

	Report data					Period changes			
	Calendar year			January to September		Calendar year			Jan-Sept
	2012	2013	2014	2014	2015	2012-14	2012-13	2013-14	2014-15
U.S. consumption quantity:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***
U.S. consumption value:									
Amount	***	***	***	***	***	***	***	***	***
Producers' share (fn1)	***	***	***	***	***	***	***	***	***
Importers' share (fn1):									
China	***	***	***	***	***	***	***	***	***
All other sources	***	***	***	***	***	***	***	***	***
Total imports	***	***	***	***	***	***	***	***	***
U.S. importers' U.S. shipments of imports from--									
China:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
All other sources:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Total imports:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
U.S. producers':									
Average capacity quantity	***	***	***	***	***	***	***	***	***
Production quantity	***	***	***	***	***	***	***	***	***
Capacity utilization (fn1)	***	***	***	***	***	***	***	***	***
U.S. shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	***	***	***	***
Inventories/total shipments (fn1)	***	***	***	***	***	***	***	***	***
Net Sales:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Cost of goods sold (COGS)	***	***	***	***	***	***	***	***	***
Gross profit or (loss)	***	***	***	***	***	***	***	***	***
SG&A expenses	***	***	***	***	***	***	***	***	***
Operating income or (loss)	***	***	***	***	***	***	***	***	***
Capital expenditures	***	***	***	***	***	***	***	***	***
Unit COGS	***	***	***	***	***	***	***	***	***
Unit SG&A expenses	***	***	***	***	***	***	***	***	***
Unit operating income or (loss)	***	***	***	***	***	***	***	***	***
COGS/sales (fn1)	***	***	***	***	***	***	***	***	***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	***	***	***	***

Notes:

fn1.--Report data are in percent and period changes are in percentage points.

Source: Compiled from data submitted in response to Commission questionniares.