Certain Calcium Aluminate Cement and Cement Clinker From France

Investigation No. 731-TA-645 (Final)

Publication 2772

May 1994

U.S. International Trade Commission

Washington, DC 20436
Certain Calcium Aluminate Cement and Cement Clinker From France
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Note.—Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report. Such deletions are indicated by asterisks.
PART I
DETERMINATIONS AND VIEWS
OF THE COMMISSION
UNITED STATES
INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-645 (Final)

Calcium Aluminate Cement and Cement Clinker From France

**Determination**

On the basis of the record developed in the subject investigation, the Commission unanimously determines, pursuant to section 735(b) of the Tariff Act of 1930 (19 U.S.C. § 1677d(b)) (the Act), that an industry in the United States is not materially injured or threatened with material injury, and the establishment of an industry in the United States is not materially retarded, by reason of imports from France of calcium aluminate cement and cement clinker, provided for in subheadings 2523.30.00 and 2523.10.00, respectively, of the Harmonized Tariff Schedule of the United States, that have been found by the Department of Commerce to be sold in the United States at less than fair value (LTFV).

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

2 Commissioner Lynn Bragg did not participate.

**Background**

The Commission instituted this investigation effective November 1, 1993, following a preliminary determination by the Department of Commerce that imports of calcium aluminate cement and cement clinker from France were being sold at LTFV within the meaning of section 733(b) of the Act (19 U.S.C. § 1673(b)). Notice of the institution of the Commission's investigation and of a public hearing to be held in connection therewith was given by posting copies of notices in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing notices in the Federal Register of December 22, 1993 (58 FR 67809) and the Federal Register of March 9, 1994 (59 FR 11088). The hearing was held in Washington, DC, on March 31, 1994, and all persons who requested the opportunity were permitted to appear in person or by counsel.
VIEWS OF THE COMMISSION

Based on the record in this final investigation, we determine that an industry in the United States is neither materially injured nor threatened with material injury by reason of imports of calcium aluminate ("CA") cement and cement clinker ("CAC clinker") from France that the U.S. Department of Commerce ("Commerce") has determined are being sold in the United States at less than fair value ("LTFV").

I. Like Product

A. In General

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

The Department of Commerce ("Commerce") has defined the scope of this investigation as:

two classes or kinds of merchandise: (1) CA [calcium aluminate] cement and cement clinker, and (2) CA flux. The products covered by these investigations include CA cement, cement clinker and flux, other than white, high purity CA cement, cement clinker and flux. These products

1 Petitioner's request to strike the testimony of respondent's witness, Alain Bucailla, from the record in this investigation is denied. Neither the rules nor considerations of due process give a party the right to cross-examine witnesses at Commission title VII hearings. See 19 C.F.R. § 201.13(g); Pasco Terminals, Inc. v. United States, 477 F. Supp. 201 (Cust. Ct. 1979), aff'd 634 F.2d 610 (C.C.P.A. 1980).
2 Commissioner Bragg did not participate in this determination.
3 19 U.S.C. § 1673d(b). Whether the establishment of an industry in the United States is materially retarded is not an issue in this investigation.
5 19 U.S.C. § 1677(10). In analyzing like product issues, the Commission generally considers a number of factors including: (1) physical characteristics and uses, (2) interchangeability, (3) channels of distribution, (4) customer and producer perceptions, (5) the use of common manufacturing facilities and production employees, and (6) where appropriate, price. Calabrian Corp. v. United States, 794 F. Supp. 377, 382 n.4 (Ct. Int'l Trade 1992). No single factor is dispositive, and the Commission may consider other factors relevant to a particular investigation. The Commission looks for clear dividing lines among possible like products, and disregards minor variations. See, e.g., S. Rep. No. 249, 96th Cong. 1st Sess. 90-91 (1979); Torrington Co. v. United States, 747 F. Supp. 744, 748-49 (Ct. Int'l Trade 1990), aff'd 938 F.2d 1278 (Fed. Cir. 1991); Asociacion Colombiana de Exportadores de Flores v. United States, 693 F. Supp. 1165, 1169 (Ct. Int'l Trade 1988) ("Asocaflores") ("It is up to [the Commission] to determine objectively what is a minor difference.").
contain by weight more than 32 percent but less than 65 percent alumina and more than one percent each of iron and silica.\textsuperscript{6}

The imported product subject to investigation in this portion\textsuperscript{7} of the Commission's investigation is calcium aluminate (CA) cement and cement clinker (herein "ordinary CA cement and CAC clinker"), other than white, high purity CA cement and cement clinker from France. Ordinary CA cement is a specialty hydraulic, nonportland cement that has a high alumina content. Alumina imparts such beneficial qualities as resistance to extreme temperatures and chemical corrosion, and fast compressive strength and hardening characteristics.\textsuperscript{8} Ordinary CA cement is used primarily as a binding agent in making special concretes for refractory and specialized construction applications.\textsuperscript{9} Ordinary CA cement clinker serves two functions: (1) as an intermediate material (CAC clinker) for producing ordinary CA cement and (2) as a fluxing agent (CA flux) to remove undesirable sulfur from steel.\textsuperscript{10} The raw material mixture for ordinary CA cement/CAC clinker consists of various amounts of crude, uncalcined bauxite (as a source of alumina, iron, and silica oxides) and limestone (as a source of calcium oxides).\textsuperscript{11} Domestically-produced and imported ordinary CA cement can be physically interchangeable, but the degree of interchangeability depends upon the application.\textsuperscript{12}


\ldots CA flux has a chemical composition distinct from CA cement clinker. CA cement clinker contains the hydraulic mineral mono-calcium aluminate, which gives it a molar ratio of lime to alumina of approximately 1:1.

In contrast, CA clinker sold as a flux does not contain mono-calcium aluminate; it contains the complex mineral C12A7 (12CaO * 7Al2O3), which gives it a molar ratio of lime to alumina of approximately 2:1. This higher lime to alumina ratio gives the CA clinker sold as a flux a lower melting point than CA cement, and also results in extra lime which can bond with sulfur and other impurities in molten steel. Although CA clinker sold as flux has some hydraulic properties, it hydrates too quickly to be used for those properties.

These products are currently classifiable under the following Harmonized Tariff Schedule of the United States (HTS) subheadings: 2523.30.0000 (for aluminum cement) and 2523.10.0000 (for cement clinker and flux). Although the HTSUS subheadings are provided for convenience and customs purposes, the written description of the scope of these investigations remains dispositive. Id.

\textsuperscript{7}There are two portions to this investigation which are on different schedules before the Commission because Commerce made a preliminary negative determination but a final affirmative determination regarding CA flux. Pursuant to 19 U.S.C. § 1675(d)(3), the Commission is directed to make its final determination on CA flux within 75 days after the date of Commerce's final affirmative determination, rather than the 45 days which applies to CA cement and CAC clinker. The Commission's final determination on CA flux is due on June 6, 1994.

\textsuperscript{8}See CR at I-6 - I-9, PR at II-4.

\textsuperscript{9}CR at I-6 and I-8, PR at II-4. In the refractory industry, ordinary CA cement is used to produce castables (dry mixes), which with the addition of water are molded into special shapes at the installation site, and gunning mixes, which generally are blown onto surfaces to make repairs. Refractories are used to line high-temperature furnaces and reactors that produce metals, generate power, and refine petrochemicals and oil. Id. The construction industry uses ordinary CA cement to make concrete mixes for fire resistant applications (coatings for fireplace hearth and structural units, and masonry for industrial stacks and chimneys), for corrosion resistant applications (floor sections and coatings to withstand chemicals in dairy plants, breweries, slaughterhouses, and sugar processing plants), for temperature resistant applications (floor sections and coatings to withstand the heat impact from dropped furnace-fired materials or molten spills), and for acid-resistant pipe linings. CR at I-8, PR at II-4.

\textsuperscript{10}CR at I-10, PR at II-5. The question of material injury by reason of imported CA flux will be addressed in the Commission determination on CA flux.

\textsuperscript{11}CR at I-10, PR at II-5.

\textsuperscript{12}CR at I-8 and I-9, PR at II-4. In contrast to gray portland cement, there are no American Society for Testing and Materials ("ASTM") standards for CA cement. CR at I-7, PR at II-4.
B. Like Product Issues and the Commission’s Preliminary Determination

In the preliminary investigation, the Commission considered three like product issues and determined that: (1) CA clinker manufactured for use as flux is a like product separate from CAC clinker; (2) CAC clinker and CA cement constitute one like product; and (3) white, high purity CA cement and clinker are not like CA cement and clinker containing less than 65 percent alumina (ordinary CA cement and clinker).

There are no arguments or new evidence in the final investigation that would suggest a different conclusion, and we reaffirm our preliminary findings that CA flux is a like product separate from CAC clinker and that CAC clinker and CA cement constitute one like product. The Commission expressed its intention to revisit the question of whether white, high purity CA cement and clinker are like ordinary CA cement and CAC clinker in this final investigation.

C. Whether white, high purity CA cement and clinker should be included in the like product

White, high purity CA cement and cement clinker are specifically excluded from the scope of investigation. However, the Commission may define the like product to be broader than the class or kind of imported articles identified by Commerce, if the Commission determines that there is no clear dividing line between the ordinary and white CA cements and clinkers.

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13The Commission considered a fourth issue, whether domestic non-clinker flux is like imported CA flux, which is not under consideration in this portion of the investigation. Certain Calcium Aluminate Cement and Cement Clinker from France, Inv. No. 731-TA-645 (Preliminary), USITC Pub. 2637 at 9-11 (May 1993).

14Certain Calcium Aluminate Cement and Cement Clinker from France, USITC Pub. 2637 at 8 (May 1993). The Commission based its unanimous determination on the fact that, despite the same physical appearance and production processes and facilities, these products have different chemical compositions, different end-uses with no interchangeability, different channels of distribution, and are perceived as different products by consumers and, to a varying degree, by the parties themselves. Id.

15Id. at 11. Noting that in past investigations the Commission has found cement and cement clinker to be a single like product, the Commission found no evidence in the record in the preliminary investigation that there was any significant difference between the production and grinding processes of CA cement and portland cement that would suggest a different conclusion. Id.

16Id. at 12-15. The Commission determined that there was not sufficient evidence of a continuum of grades of CA cement and found that the different levels of aluminas in ordinary and high purity CA cement appeared to be important in terms of different products’ end-uses, interchangeability and price. The Commission also found that these products had different physical characteristics and no common manufacturing facilities. Producer and customer perceptions were the subject of dispute between the parties. The Commission indicated it would revisit this issue, particularly the interchangeability between the various CA cements, in any final investigation.

17In the gray portland cement cases, white, nonstaining, portland cement was excluded from the scope of investigation and not considered by the Commission as a part of the like product. However, the Commission never addressed the issue of inclusion of white portland cement in those cases, apparently because inclusion never was raised as an issue.

In our preliminary determination, we noted that ordinary CA cement and clinker and white, high purity CA cement and clinker have different physical characteristics and chemical compositions, end uses, and manufacturing facilities. We noted, however, that there was disagreement among the parties as to whether producers and purchasers perceived the products as different. We also noted that there were some questions about the degree of interchangeability between the two CA cements.

In the final investigation, virtually all of the purchasers responding to the Commission's questionnaire reported that ordinary CA cement could not be used in applications typically formulated with white CA cement due to differences in chemical composition and performance. Moreover, white CA cement producer stated in the final investigation that... Therefore, while it is technically possible to use white CA cement for ordinary CA cement in some product formulations, questionnaire respondents generally indicated that the higher cost of white CA cement would preclude them from doing so.

In view of this additional evidence, and given the position of the parties in this final investigation on this particular issue, we find that domestically produced white, high purity CA cement and clinker are not like the ordinary CA cement and clinker subject to investigation.

II. Domestic Industry and Related Parties

A. Domestic Producers

In light of our like product determination, we find that there is a single domestic industry comprised of the domestic producers of ordinary CA cement and CAC clinker.

In the preliminary investigation, the Commission determined that Lafarge Fondu's U.S. subsidiary was a domestic producer of CA cement and CAC clinker, based specifically on its substantial capital investment in

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20 In the final investigation, petitioner, Lehigh Portland Cement Company (“Lehigh”) urged the Commission to follow its preliminary determinations regarding the like product. Petitioner's Prehearing Brief at 6. Respondents Lafarge Fondu International and Lafarge Calcium Aluminates, Inc. (herein “Lafarge Fondu” and “Lafarge CA”) agreed that ordinary CA cement and CAC clinker are one like product, and further indicated that it accepted the Commission’s preliminary determination that this like product does not include white, high purity CA cement and clinker. Tr. at 197 and 198.
21 CR at I-91, PR at II-21.
22 CR at I-10, PR at II-5.
23 CR at I-91, PR at II-21. See Aspherical Ophthalmoscopy Lenses from Japan, Inv. No. 731-TA-518 (Preliminary), USITC Pub. 2396 at 11 (June 1991) (“We have in the past given more weight to actual, rather than merely potential, interchangeability in considering whether to expand the like product beyond those articles described as subject to investigation.”).
34 Lafarge Fondu's U.S. subsidiary, Lafarge CA, does not produce ordinary CAC clinker, but accounts for all of respondent's imports of CAC clinker to the United States and grinds the imported clinker to produce ordinary CA cement. Table 4, CR at I-21 and I-22, PR at II-8. Based on our determination not to include white, high purity CA cement and clinker in the like product, we do not consider Lafarge CA's U.S. production of white, high purity CA cement and clinker in determining whether it is a domestic producer of the like product.
the United States and the value added by the grinding operation. The evidence regarding Lafarge CA's domestic ordinary CA cement operation in this final investigation does not lead to a different conclusion.

In considering whether a firm is a domestic producer, the Commission has looked to the overall nature of its production-related activities in the United States. Lafarge CA's capital investment in its U.S. facility for ordinary CA cement continues to be substantial. The value added in grinding CAC clinker into ordinary CA cement is significant. While Lafarge CA's U.S. employment levels for production of CA cement have declined, this figure accounts for a *** percentage of total U.S. employment in the production of ordinary CAC clinker and CA cement.

Based on the foregoing discussion, specifically the substantial capital investment in the United States and the significant value added, we reaffirm our preliminary determination and consider respondent's U.S. subsidiary to be a domestic producer.

B. Related Parties

In the preliminary determination, the Commission concluded that respondent's U.S. subsidiary Lafarge CA was a related party and that appropriate circumstances existed to exclude it from the domestic industry producing CAC clinker and CA cement.

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26 Specifically, in resolving that issue, the Commission has examined six factors: (1) the extent and source of the firm's capital investment, (2) the technical expertise involved in U.S. production activity, (3) the value added to the product in the United States, (4) employment levels, (5) the quantities and types of parts sourced in the United States, and (6) any other costs and activities in the United States leading to production of the like product, including where production decisions are made. No single factor is determinative and the Commission may consider any other factors it deems relevant in light of the specific facts of any investigation. See, e.g., Certain Cased Pencils from the People's Republic of China and Thailand, Inv. Nos. 731-TA-669-670 (Preliminary), USITC Pub. 2713 at I-8, n. 27 (Dec. 1993); Silicon Carbide from the People's Republic of China, Inv. No. 731-TA-651 (Preliminary), USITC Pub. 2668 (Aug. 1993); Gray Portland Cement and Cement Clinker from Mexico, Inv. No. 731-TA-451 (Preliminary), USITC Pub. 2235 (Nov. 1989).

27 The total assets for Lafarge's U.S. subsidiary were valued at *** dollars in 1993. Table 16, CR at I-59, PR at I-14. During the preliminary investigation, Lafarge reported that "approximately *** is attributable to the grinding and packing of Lafarge's lower alumina grades." Respondent's Postconference Brief, Appendix 2 at 9. Moreover, respondent indicated that about *** of the equipment used in its U.S. subsidiary's CA cement production operations is sourced within the United States. Id. at 12.

28 The cost of grinding CAC clinker into ordinary CA cement is between *** of the total cost of producing the finished cement. CR at I-54, PR at I-14. Moreover, value-added by Lafarge CA to material costs as a ratio of cost of goods sold (i.e., without SG&A expenses) was ***. Table 14, CR at I-35, PR at I-13.

29 Lafarge CA's employment for production of CA cement were *** or about *** of total U.S. employment in the production of ordinary CAC clinker and CA cement. Table 10, CR at I-41, PR at I-12.

If a company is a related party under section 771(4)(B), the Commission determines whether "appropriate circumstances" exist for excluding the producer in question from the domestic industry. The rationale for excluding related parties is the concern that the overall industry data may be skewed by inclusion of related parties who are shielded from any injury that might be caused by the subject imports.

In this investigation, respondent's U.S. subsidiary, Lafarge CA in Chesapeake, Virginia is *** percent owned by respondent, Lafarge Fondu International. Furthermore, Lafarge CA imports virtually all of the subject imports. Therefore, respondent's U.S. subsidiary qualifies as a related party, and we considered whether appropriate circumstances exist for excluding it from the definition of the domestic industry.

During the period of investigation, Lafarge CA accounted for *** percent by quantity of U.S. ordinary CA cement production. All of Lafarge CA's production of ordinary CA cement was from imported CAC clinker manufactured by respondent. Moreover, Lafarge CA's U.S. production of ordinary CA cement does not compete with any imports since its parent, Lafarge Fondu, only exports ordinary CAC clinker and not ordinary CA cement to the United States. This fact suggests that the related party's U.S. production is shielded from competition with ordinary CA cement imports by its parent company's decision to export only clinker. In addition, Lafarge CA's production of ordinary CA cement from imported LTFV clinker

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31 Under section 771(4)(B), producers who are related to exporters or importers, or who are themselves importers of allegedly dumped or subsidized merchandise, may be excluded from the domestic industry for the purposes of an injury determination in appropriate circumstances. 19 U.S.C. § 1677(4)(B).

32 The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude the related parties include:

(1) the percentage of domestic production attributable to related producers;

(2) the reason why importing producers choose to import the articles under investigation — to benefit from the unfair trade practice or to enable them to continue production and compete in the domestic market; and

(3) the position of the related producers vis-à-vis the rest of the industry, i.e., whether inclusion or exclusion of the related party will skew the data for the rest of the industry.

See, e.g., Torrington v. United States, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992) aff'd without opinion 991 F.2d 809 (Fed. Cir. 1993) (Court upheld the Commission's practice of examining these factors in determining that appropriate circumstances did not exist to exclude related party); Empire Plow Co. v. United States, 675 F. Supp. 1348, 1353 (Ct. Int'l Trade 1987). The Commission has also considered whether each company's books are kept separately from its "relations" and whether the primary interests of the related producers lie in domestic production or in importation. See e.g., Polyethylene Terephthalate Film, Sheet, and Strip from Japan and the Republic of Korea, Inv. Nos. 731-TA-458 and 459 (Final), USITC Pub. 2383 at 17-18 (May 1991); Rock Salt from Canada, Inv. No. 731-TA-239 (Final), USITC Pub. 1798 at 12 (Jan. 1986).


34 Table 3, CR at 1-20, PR at II-8; Table 5, CR at I-26, PR at II-9.

35 Table 7, CR at I-31, PR at II-10. Lafarge CA's U.S. ordinary CA cement production was *** percent of total domestic production in 1990, *** percent in 1991, *** percent in 1992 and *** percent in 1993. Id.

36 CR at I-22, PR at II-8.

37 CR at I-26, PR at II-9; Tr. at 207 and 208.
benefits from the dumping. Finally, Lafarge CA is in *** and inclusion of Lafarge CA's financial information would skew the data for the rest of the domestic industry.\textsuperscript{38} In view of the above, we determine that appropriate circumstances exist to exclude Lafarge CA from the domestic industry as a related party.

### III. Condition of the Domestic Industry

In assessing whether the domestic industry is materially injured by reason of the LTFV imports, the Commission considers all relevant economic factors which have a bearing on the state of the industry in the United States. These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, profits, cash flow, return on investment, ability to raise capital, and research and development. No single factor is determinative, and we consider all relevant factors "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."\textsuperscript{39} In evaluating the condition of the domestic industry, we look at the domestic industry as a whole.\textsuperscript{40}

An important condition of competition in this industry is the presence of two largely distinct categories of end-users of ordinary CA cement: (1) manufacturers of refractory products; and (2) firms that produce a variety of specialty building products and/or use the product in applications in the construction industry.\textsuperscript{41} The two market sectors are of *** size.\textsuperscript{42} Users within these sectors select particular brands of cement on the basis of different performance characteristics.\textsuperscript{43} The demand for ordinary CA cement is subject to change based on overall macroeconomic conditions that affect the demand for refractories and various types of specialty building products. In addition, technological changes in the refractory sector and the development of new construction-related applications for different types of CA cement have affected overall demand for these products.

Over the period of investigation, demand for CA cement in the refractories sector was adversely affected by the impact of the economic recession on the traditional users of refractory products, such as the steel

\textsuperscript{38}Table 11, CR at I-45, Table 13, CR at I-52, and Table 15, CR at I-57, PR at II-13, II-13, and II-14.
\textsuperscript{40} See, e.g., \textit{Weled Steel Pipe from Malaysia}, Inv. No. 731-TA-644 (Preliminary), USITC Pub. 2620 at 19-20 and n. 79 (Apr. 1993) ("The Commission may take into account the departures from an industry or the unique circumstances of individual companies, but ultimately must assess the condition of the industry as a whole, and not on a company-by-company basis.").\textsuperscript{41} citing \textit{Metalwerken Nederland B.V. v. United States}, 728 F. Supp. 730, 735 (Ct. Int'l Trade 1989).
\textsuperscript{42} For Chairman Newquist, the existence of "distinct categories" of end users of ordinary CA cement is not an important condition of competition. \textit{See} footnote 71 infra.
\textsuperscript{43} The quantity of apparent consumption of ordinary CA cement in the refractory market sector was ***. Similarly, the apparent consumption in the non-refractory market sector was ***. CR at I-74, PR at II-18.\textsuperscript{44}
\textsuperscript{44} For refractory products made with CA cement, which are used to line high-temperature furnaces that produce metals, such as steel, the melting point, and the level of impurities contained in the cement, are important criteria and may limit the use of certain brands of cement. In non-refractory applications, the initial and final set times, early compressive strength, flow, and workability of the cement, are cited as important criteria in the selection process. Economic Memorandum, EC-R-044 at §, dated April 19, 1994 (herein "EC-R-044").
and aluminum industries. Moreover, new product development in the refractories market has focused on products containing increasingly lower levels of ordinary CA cement. Much of the recent (as well as projected) growth in the consumption of refractories has centered on these newer products. These factors have contributed to the decline in U.S. consumption of ordinary CA cement in the refractory sector.

The development of a limited number of new non-refractory uses for CA cement and the recent upturn in overall construction activity have contributed to an increase in consumption in the non-refractory sector. Many of these firms use relatively small quantities of CA cement for a limited range of applications, in comparison to the refractory manufacturers. Nonetheless, increased consumption in this sector has at least partially offset the decline in consumption of ordinary CA cement for use in refractory applications.

The domestic CA cement and CAC clinker industry involves both the production of CAC clinker and the grinding of that clinker into finished CA cement. In assessing the condition of the domestic industry, it is necessary to discuss some data separately for these production stages.

Apparent U.S. consumption of CA cement by quantity declined from short tons in 1990 to short tons in 1991, and remained relatively constant at short tons in 1992, followed by a increase in 1993 to short tons. The overall decline was percent from 1990 to 1993. Consumption by value increased by percent, from 1990 to 1993. Consumption in the refractory market segment declined steadily from short tons in 1990 to short tons in 1993, or by percent. In contrast, apparent U.S. consumption of CA cement in the non-refractory market segment increased by percent from short tons in 1990 to short tons in 1993.

Domestic production of CA cement declined from 1990 to 1993, with a decline from 1990 to 1991 and a decline from 1991 to 1993. Capacity to produce CA cement remained constant from 1990 to 1993. Therefore, capacity utilization rates for CA cement, which were relatively low at the start of the period, declined as production declined through the period.

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44 CR at I-8 n.11, PR at II-4 n.11; EC-R-044 at 41 n.51; TR at 28 and 65.
45 For the most part, these newer products are not only using less CA cement overall, but also are using white CA cement rather than ordinary CA cement. CR at I-87, PR at II-21.
46 CR at I-87, PR at II-21.
47 CR at I-87, PR at II-21.
48 CR at I-87 and I-83, PR at II-21.
49 CR at I-87, PR at II-21.
50 We discuss apparent consumption and U.S. shipments only for the finished CA cement segment since the end-use market is for finished cement. Discussing production data for both CA cement and CAC clinker would result in double counting of some data and would not reflect the interdependent nature and the different capacity constraints in the CAC clinker production and CA cement grinding processes. Accordingly, we discuss production, capacity, capacity utilization, and inventory data separately for the clinker and finished cement stages of production. Finally, other data, i.e., employment, wages, and financial performance indicators, are discussed for the domestic CA cement and CAC clinker industry as a whole.
51 Data referred to in this paragraph are summarized in Table 2, CR at I-19, PR at II-8.
52 Table D-1, CR at D-3, PR at D-2.
53 Table D-2, CR at D-4, PR at D-2.
54 Data referred to in this paragraph are summarized in Table 7, CR at I-31, PR at II-10. The domestic industry's production of CA cement was $. The industry's capacity utilization rates for CA cement were $. /Id.

Domestic production of CAC clinker declined from 1990 to 1993, with a ** decline from 1990 to 1991. Capacity to produce CAC clinker remained constant throughout the period of investigation. Therefore, as production declined, so did capacity utilization. The domestic industry's year-end inventories of CAC clinker fluctuated between years with a ** overall increase from 1991 to 1993.

Employment in the domestic CA cement and CAC clinker industry declined overall during the period of investigation, despite an increase from 1992 to 1993. Hours worked followed a similar trend over the period of investigation. From 1990 to 1993, total compensation fluctuated, but declined overall, while hourly total compensation increased ** from 1990 to 1992 and declined ** in 1993.

The financial performance indicators for the domestic CA cement and CAC clinker industry generally declined overall during the period of investigation. There were ** declines in most indicators in the period 1990-1992, with some indicators showing increases from 1992 to 1993. From 1990 to 1992, the domestic industry experienced declines in net sales by quantity and by value. Net sales increased by both quantity and value from 1992 to 1993. Gross profit were **, but ** over the period of investigation. Operating income, which was **, improved ** from 1990 to 1991, but then declined ** from 1991 to 1993. The operating ** margin (ratio of operating ** to net sales) also increased from 1990 to 1991, and then fell from 1991 to 1993.

The domestic industry's cost of goods sold declined from 1990 to 1992 but increased from 1992 to 1993. As a share of net sales, the cost of goods sold declined from 1990 to 1991, but increased from 1991 to 1993. Unit cost of goods sold increased ** over the period of investigation. Selling, general, and administrative (SG&A) expenses for the industry fluctuated between years, but remained somewhat constant from 1990 to 1993.

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55 Table 7, CR at I-31, PR at II-10. The domestic industry's U.S. shipments of CA cement by quantity were **. Id.
56 Table 7, CR at I-31, PR at II-10.
57 Table 9, CR at I-39, PR at II-12. The domestic industry's year-end inventories of CA cement **. Id.
58 Table C-1a, CR at C-3, PR at C-2. The domestic industry's inventories as a share of U.S. shipments of CA cement **. Id.
59 Data referred to in this paragraph are summarized in Table 8, CR at I-33, PR at II-11.
60 Table 9, CR at I-39, PR at II-12.
61 Data referred to in this paragraph are summarized in Table 10, CR at I-41, PR at II-12.
62 Data referred to in this paragraph are summarized in Table 11, CR at I-45, PR at II-13. Employment in the domestic industry declined from **. Id.
63 Data referred to in this paragraph are summarized in Table 11, CR at I-45, PR at II-13. The domestic industry's cost of goods sold were **. Cost of goods sold as a share of net sales were **. SG&A expenses for the industry were **. Id.
Finally, the domestic industry's capital expenditures declined *** from 1990 to 1992, and then increased *** in 1993. 64 65

IV. No Material Injury by Reason Of LTFV Imports

In determining whether a domestic industry is materially injured by reason of the imports that Commerce has determined are sold at LTFV, the statute directs the Commission to consider the volume of imports, their effect on prices for the like product, and their impact on domestic producers of the like product. 66 Although the Commission may consider causes of injury other than the LTFV imports, it is not to weigh causes. 67 68 69 For the reasons discussed below, we find that the domestic CA cement and cement clinker industry is not materially injured by reason of LTFV imports from France.70 71

64 CR at I-56, PR at II-14. The domestic industry's capital expenditures were ***. Id.
65 Based on the foregoing, Chairman Newquist and Commissioner Rohr conclude that the domestic CA cement and CAC clinker industry is experiencing material injury.
66 19 U.S.C. § 1677(7)(B)(i). The Commission also may consider "such other economic factors as are relevant to the determination." Id.
68 Vice Chairman Watson notes that the courts have interpreted the statutory requirement that the Commission consider whether there is material injury "by reason of" the subject imports in a number of different ways. Compurs United States Engineering & Forging v. United States, 779 F. Supp. 1375, 1391 (Ct. Int'l Trade 1991)("The Commission must determine whether unfairly traded imports are contributing to such injury to the domestic industry... Such imports, therefore, need not be the only cause of harm to the domestic industry") (citations omitted) with Metalwerken Nederland B.V. v. United States, 728 F. Supp. at 741 (affirming a determination by two Commissioners that "the imports were a cause of material injury") and USX Corp. v. United States, 682 F. Supp. 67, 69 (Ct. Int'l Trade 1988) ("any causation analysis must have at its core the issue of whether the imports are an issue of cause, in a non de minimis manner, the material injury to the industry").
Accordingly, Vice Chairman Watson has determined to adhere to the standard articulated by Congress, in the legislative history of the pertinent provisions, which states that "the Commission must satisfy itself that, in light of all the information presented, there is a sufficient causal link between the less-than-fair-value imports and the requisite injury." S. Rep. No. 249 at 275.
69 Commissioner Crawford notes that the statute requires that the Commission determine whether a domestic industry is "materially injured by reason of" the LTFV imports. She finds that the clear meaning of the statute is to require a determination on whether the domestic industry is materially injured by reason of LTFV imports, not by reason of LTFV imports among other things. Many, if not most, domestic industries are subject to injury from more than one economic factor. Of these factors, there may be more than one that independently is causing material injury to the domestic industry. If it is assumed in the legislative history that the "ITT will consider information which indicates that harm is caused by factors other than less-than-fair-value imports." S. Rep. No. 249 at 75. However, the legislative history makes it clear that the Commission is not to weigh or prioritize the factors that are independently causing material injury. Id. at 74; H.R. Rep. No. 317, 96th Cong., 1st Sess. 46-47 (1979).
The Commission is not to determine if the LTFV imports are "the principal, a substantial or a significant cause of material injury." S. Rep. No. 249 at 74. Rather, it is to determine whether any injury "by reason of" the LTFV imports is material. That is, the Commission must determine if the subject imports are causing material injury to the domestic industry. "When determining the effect of imports on the domestic industry, the Commission must consider all relevant factors that can demonstrate if unfairly traded imports are materially injuring the domestic industry." S. Rep. No. 71, 100th Cong., 1st Sess. 116 (1987) (emphasis added).
70 In making our determination, we consider the impact of the imports on the industry "as a whole." See, e.g., United Eng'g & Forging v. United States, 779 F. Supp. 1375, 1391 (Ct. Int'l Trade 1991).
However, we are not prevented from focusing on appropriate market segments. See Invensys Elec. Co. v. United States, 175 F. Supp. 1506, 1511 n.7 (Ct. Int'l Trade 1991); Clifford-Hill Cement Co. v. United States, 615 F. Supp. 577, 582-84 (Ct. Int'l Trade 1985); see also Copperweld Corp. v. United States, 882 F. Supp. 552, 566 (Ct. Int'l Trade 1988).
71 Chairman Newquist notes that the market segment discussion below is irrelevant to his determination. In his view, the question posed by the statute is whether the subject imports are or are not
A. Volume of Imports

While there are no subject imports of CA cement, there are LTFV imports of CAC clinker, which are ground into CA cement by respondent's U.S. subsidiary, Lafarge CA. Imports of CAC clinker fluctuated considerably from year to year, but increased overall by quantity and by value from 1990 to 1993. However, we do not view this increase in imports as significant in light of Lafarge's historically substantial market presence. Another factor which reduces the significance of trends in CAC clinker imports is the fact that yearly production and shipments of the finished CA cement by Lafarge CA, and therefore are not a reliable indicator of the level of imports entering the market place. A better indicator is the market share held by, and U.S. shipments of, CA cement produced by Lafarge CA from the LTFV imports of CAC clinker.

The overall market share of ordinary CA cement produced by Lafarge CA increased from 1990 to 1992 and declined *** in 1993. As discussed above, however, this market has two broad categories of end-users: the refractory sector, and the specialty building products or non-refractory sector. Lafarge CA's increasing market share resulted largely from *** which it dominates, where apparent consumption in terms of quantity increased by *** from 1990 to 1993. In contrast, Lehigh's decline in overall market share is a result of falling sales in *** the refractory sector where the quantity of consumption fell by ***.

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a cause of material injury to the domestic industry producing the like product. The like product which the Commission has found is CA cement and cement clinker. The assessment of the causal link between imports and the industry producing the like product requires analysis of the industry as a whole, not heightened scrutiny of particular segments of the industry or market. Thus, his negative determination is made on the basis of examining aggregate trends in consumption, market share, pricing, etc. Accordingly, Chairman Newquist does not join those portions of the following discussion which rely upon such market segment analysis.

There are virtually no other imports of CAC clinker or CA cement. Table 19, CR at I-70, PR at II-29.

Table 19, CR at I-70, PR at II-17. Lafarge CA reported that the fluctuation in amount of imports of CAC clinker to the United States was largely due to **. CR at I-68, PR at II-16.

Historically, the ordinary CA cement and CAC clinker market has had only these two suppliers, Lehigh and Lafarge. Tab. at 12, 28 and 29.

Due to the small number of shipments of CAC clinker per year, imports are inventoried until needed. CR at I-69, n.82, PR at II-16, n.82.

Commissioner Crawford has fully considered the available data in this investigation in making her determination. However, she does not join in this discussion regarding correlations in trends of import and other statistics as she does not rely on any such analysis of trends.

Table 20, CR at I-73, PR at II-17. Lafarge CA's market share for CA cement was *** percent in 1990, *** percent in 1991, *** percent in 1992, and *** percent in 1993. Id.

Commissioner Rohr notes that, in his analysis, causation relates to the domestic industry as a whole rather than to any segment or portion of the industry represented by particular market segment. Nevertheless, an analysis of market segments may have some explanatory power which assists in making findings as to the industry as a whole. He joins in his colleagues' discussion of the market segments in this industry because he believes this is a case in which a consideration of the refractory and nonrefractory segments of the market does have some explanatory power for his consideration of the industry as a whole.

CR at I-75, Table D-1 and D-2, CR at D-3 and D-4; PR at II-18 and D-2. Lafarge CA's share by quantity of the non-refractories sector was *** percent in 1990, *** percent in 1991, *** percent in 1992, and *** percent in 1993. Id.


CR at I-75, Tables D-1 and D-2, CR at D-3 and D-4; PR at II-18 and D-2. Lehigh's market share of the refractory sector was *** percent in 1990, *** percent in 1991, *** percent in 1992, and *** percent in 1993. Id.
The data for U.S. shipments for existing refractory applications are not consistent with petitioner’s claim that virtually every shipment lost by Lehigh was a shipment gained by Lafarge CA. Rather, despite declining demand in the refractory sector of the market, where Lehigh is the dominant supplier, shipments of Lafarge CA’s product ***. Moreover, since purchasers reported little, if any, shifting between suppliers, it does not appear that Lafarge CA’s *** were at Lehigh’s expense.

Due to the relatively high costs associated with the development and/or reformulation of many of the products that contain ordinary CA cement, the majority of purchasers in both the refractories and the non-refractories sectors indicated that they generally are reluctant to switch from one supplier or brand to another. Purchasers reported that decisions to change types or brands of CA cement generally are made by assessing the requisite research and development costs associated with their product development, testing, and qualification processes versus the expected benefits (improved quality or end-product performance and lower production costs). More importantly, during the period of investigation there were very few reports of actual switching; these changes were made because of quality or technical problems as well as cost.

In the non-refractory market sector, where Lafarge CA historically has been the dominant supplier, consumption increased in part due to new applications for CA cement. New applications were defined in the Commission’s questionnaire as “product being used for the first time in a manner which is ‘new’ to THAT customer.” Both suppliers reported that their customers used a variety of products such as portland cement or refractory bricks before turning to CA cement or that CA cement was used in entirely new products. The record confirms that overall the new applications have expanded demand in the non-refractory sector. While shipments by quantity for existing applications in the non-refractory sector increased by less than *** from 1990 to 1993, shipments for new

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82 Petitioner’s Prehearing Brief at 33; Tr. at 67; Table D-4, CR at D-6, PR at D-2. For example, Lehigh’s shipments for existing refractory applications ***. By comparison, ***. Similarly, for the other years, there is no correspondence between changes in Lehigh’s and Lafarge CA’s shipments in the sector where ***. Moreover, ***. Id.
83 Lafarge CA’s shipments in the refractory sector *** and from 1992 to 1993. Table D-1, CR at D-3, PR at D-2.
84 CR at I-93, PR at II-23. While 60 purchasers reported no changes in supplier during the 1991-1993 period, four purchasers reported shifting some or all of their purchases from Lehigh to Lafarge CA and eight purchasers reported shifting some or all of their purchases from Lafarge CA to Lehigh. Id.
85 Questionnaire responses supplied by 61 percent of the firms in the refractories sector indicated that substitution between some Lehigh and Lafarge CA brands was possible, but not without some testing and reformulation. A significantly smaller portion of the firms in the non-refractories sector reported that substitution was possible. CR at I-92, PR at II-23.
86 CR at I-89, PR at II-21. Since purchasers tend to use particular brands of CA cement for specific product lines, changes in demand for specific product lines affect the volume purchased of particular brands of CA cement from one year to another. EC-R-044 at 38.
87 CR at I-93, PR at II-23.
88 Table D-4, CR at D-6, PR at D-2.
89 CR at I-79, n.93, PR at II-19, n.93 (emphasis in original).
90 CR at I-78, PR at II-19. New products in which CA cement was first used include ***. CR at I-79, PR at II-19.
91 Table D-4, CR at D-6, PR at D-2.
92 ***. ***. Similar to the refractory sector, however, there is no correspondence between changes in shipments between Lehigh and Lafarge CA. For example, from 1992 to 1993, Lehigh’s shipments by quantity for existing applications in the non-refractory sector ***. Moreover, the unit value for Lafarge CA’s shipments for existing applications in the non-refractory sector in 1993 was *** than that reported for Lehigh. Table D-4, CR at D-6, PR at D-2.
applications in this sector.\footnote{Table D-4, CR at D-6, PR at D-2.}
Lehigh's shipments by quantity for existing applications in the non-refractory sector from 1990 to 1993, but its shipments for new applications for the same period.\footnote{Table D-4, CR at D-6, PR at D-2.} Lafarge CA's shipments by quantity for new applications in this sector increased by percent, while its shipments for existing applications in the non-refractory sector increased by percent.\footnote{Table D-4, CR at D-6, PR at D-2.}

The evidence of record therefore is insufficient to support the conclusion that Lehigh's decline in market share for sales to both refractory and non-refractory applications was by reason of LTFV imports. Rather, the record suggests that Lehigh's in market share was due to a in demand for Lehigh's product in refractory applications.

There is nothing inherently different between certain of the CA cement products \footnote{Seventy-two percent of the manufacturers of refractories responded in the questionnaire that the Lehigh and Lafarge CA products could be employed in the same range of uses, and 42 percent indicated that different brands were interchangeable in a given application. However, only 38 percent of the firms in the non-refractory sector reported that the Lehigh and Lafarge CA products were employed in the same range of uses and 26 percent reported that the products were interchangeable in a given application. EC-R-044 at 34.} and most of the CA cement products are used in both sectors.\footnote{CR at I-75, PR at II-18. For example, Lafarge CA's Secar 41 has been marketed to, and is used by both the refractory and non-refractory sectors; Lafarge CA's Secar 41 was used percent by quantity for refractory applications and percent by quantity for non-refractory applications in 1993. Lafarge CA's Secar 51 followed a similar pattern of use in both sectors, i.e., percent by quantity for refractory applications and percent by quantity for non-refractory applications in 1993. In contrast, Lehigh's Luminiz, which is comparable to Lafarge CA's Secar 41, was used percent by quantity for refractory applications and percent by quantity for non-refractory applications in 1993. Moreover, the ratio for Lehigh's Refcon, which is comparable to Lafarge CA's Secar 51, was percent for refractory applications and percent for non-refractory applications. CR at I-75, PR at II-18.} Rather, the dominance of the suppliers in different sectors reflects differences in their marketing approaches. Lafarge CA has aggressively marketed its products to both sectors of the market and, in particular, has made a significant commitment to providing technical assistance to customers using CA cement for the first time in non-refractory applications.\footnote{CR at I-60 and I-61, PR at II-14. According to Respondent, "... CA cement is not easy to use. A customer needs to learn how to use it, needs to develop tailored formulas ... the core philosophy behind Lafarge's market strategy has been to get out there, to create demand, to identify opportunities, work with customers so they will use calcium aluminate cements where they otherwise would not." Tr. at 182 and 183.} Although Lehigh has stepped up its technical support efforts in non-refractory applications, particularly toward the end of the period of investigation, customers continue to view Lafarge CA's service and support as superior, and Lehigh has continued to rely primarily on its traditional customers in the refractory sector.\footnote{CR at I-94 and I-95, PR at II-23; Lafarge's Prehearing Brief at 19-20. Few differences were reported by purchasers between the two suppliers except with respect to sales service and technical assistance. However, Lafarge CA was cited by percent of the purchasers for having superior technical assistance and by percent for better sales service, while Lehigh percent. CR at I-94, PR at II-23.} 

\footnote{Commissioner Crawford notes that this evidence supports a relatively low elasticity of substitution between subject imports and domestic product. As noted above, the percent of purchasers considers non-price factors to be more important. The relatively high transactions costs involved in switching brands diminishes the incentive to change products in response to relative price changes. Moreover, the fact that Lafarge and Lehigh each sell a percent of their products to different segments of the market, each with different growth rates, tends to reduce the importance of relative prices. Lafarge has further differentiated its product by providing what customers report to be superior support services. This and other evidence in the record suggests a low elasticity of substitution in the range of 1.5 to 3. When there is a low elasticity of substitution, purchasers do not respond as readily to changes in relative prices.}
While the volume of LTFV imports and the market share held by CA cement produced from those LTFV imports is significant, the level of imports and market share is consistent with historical levels. For the reasons discussed above, we also find that any increases in the volume of imports or market share were not significant, and that the decline in Lehigh's market share was not by reason of the subject imports.

B. Price Effects of Imports

Lafarge CA and Lehigh each manufacture a range of ordinary CA cement products that differ in terms of their specific chemical characteristics, melting points, color, initial and final set times, and compressive strengths. Purchasers determine which type and brand of CA cement to use in a product during the process of product development and testing. Firms make decisions regarding CA cement on the basis of quality and particular performance attributes that are required for the final product. The cost of the ordinary CA cement may also be a factor, but the majority of purchasers indicated that it was, at most, a secondary consideration.

Moreover, transportation costs can account for a variable but significant percentage of the total cost of CA cement for purchasers. In addition to variations due to distance, there is a significant difference in cost for shipping less-than-truckload (LTL) quantities. Therefore, some firms chose to purchase ordinary CA cement from Lafarge CA, because it offered a wider range of cement products (ordinary CA and white CA), allowing firms to combine shipments and reduce their shipping costs by achieving truckload quantities.

101 Given the lack of any open market pricing data for either domestic or subject imported SAC clinker, and the lack of any subject imports of "finished" CA cement (and hence any pricing data for such imports), the Commission may rely on whatever “secondary” data may reasonably offer guidance on the effects of the subject imports on prices for the domestic like product. Cf. Iwatsu Elec. Co. v. United States, 758 F. Supp. 1506 (Cl. Int’l Trade 1991) (ITC must assess causation even in the face of great difficulties in making price comparisons); Alberta Pork Producers’ Marketing Bd. v. United States, 669 F. Supp. 645, 460 (Cl. Int’l Trade 1987) (“nothing in the statute or regulations prevents the Commission from using information other than questionnaire responses when the Commission determines that the responses do not provide an adequate basis for making its determination.”). See also Chung Ling Co. v. United States, 16 CIT 805 F. Supp. 45, 54 (1992) (“[i]t is critical to fair price comparisons that they be made at the level of actual competition in the U.S. market.”) In this case, the open market pricing of Lafarge CA’s U.S.-finished CA cement produced from dumped subject CA clinker provides the best data available on pricing of the subject imports, notwithstanding that the “finished” CA cement is a U.S. product by virtue of Lafarge CA’s U.S. grinding of the finished cement from subject imported clinker.

102 Table 1, CR at I-7, PR at II-4.

103 Table 2, CR at I-89, PR at II-21. The testing, production, and field trials associated with product development can range from several weeks to up to one year. EC-R-044 at 8 and 9.

104 The majority of purchasers identified quality as the most important factor influencing their purchasing decisions, with technical differences and performance also reported as important considerations. Some firms also reported relying on traditional suppliers of CA cement. CR at I-89, Table 22, CR at I-90, PR at II-21 and II-22.

105 In Chairman Newquist’s view, “quality” in this context refers to the performance attributes unique to each of the various products offered by both Petitioner and Respondent. However, since the Commission has defined one like product of ordinary CA cement and cement clinker, rather than several like products corresponding to product lines, further consideration of “quality” issues is not necessary nor appropriate.

106 CR at I-89, Table 22, CR at I-90, PR at II-21 and II-22. Moreover, the cost of CA cement is insignificant relative to the overall cost of an industrial or construction project. TR at 29.

107 Purchasers responded in the questionnaire that shipping costs ranged from approximately 2 percent to 27 percent of the total cost of the final product. CR at I-96 and I-97, PR at II-24.

There are extensive pricing data in the record.109 Two general conclusions can be drawn from these data. First, both Lehigh's and Lafarge's average unit values on all products combined *** over the period of investigation.110 Second, to the extent that underselling comparisons can be made between Lehigh and Lafarge CA's products, the data are mixed.111 Moreover, the average unit values reported by purchasers varied somewhat from comparable values reported by Lehigh and Lafarge CA.112 For example, the average unit values reported by producers for packaged sales were substantially different than the purchasers' responses; Lehigh's Lumnite was *** priced in producers responses than Lafarge CA's comparable Secar 41,113 whereas the average unit values reported by purchasers for packaged sales of Lehigh's Lumnite were generally *** than those reported for Lafarge CA's product, Secar 41 and, generally *** than those reported for another comparable Lafarge product, Fondu.114

However, this pricing information is not easily compared due to product differentiation, transportation costs,115 technical services, and the fact that imports enter as CAC clinker and, thus, are not at the same level of actual competition.116 We, therefore, found the collected pricing data to be of limited value in making our determination. In any event, the evidence in the record shows that end-users make their purchasing decisions based largely on non-price factors.117 118 Moreover, as discussed above, the evidence indicates that purchasers rarely switch products or suppliers and that, when switching occurs, price is a secondary consideration.119

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110 Table 7, CR at I-32, PR at II-10. Moreover, *** purchasers in both sectors reported the price of CA cement products changed infrequently (or not at all) during the period of investigation. EC-R-044 at 19.
111 Commissioner Crawford does not place great weight on the underselling price comparisons in determining the impact of the subject imports on the domestic like product where these comparisons show persistent and consistent margins of overselling or underselling. In these instances, the prices being compared might well reflect quality or other nonprice differences, making these comparisons less useful in assessing price effects.
112 These variations stem, to some degree, from the differences between the number of sales reported by the two CA cement suppliers and the number of purchasers that reported data in a form that was comparable sampled by the Commission. CR at I-106, PR at II-26.
113 Figure 2, CR at I-102, PR at II-25.
114 Figure 4, CR at I-107, PR at II-26. The data show that there are *** bulk sales of Lafarge CA's Secar 41. The bulk sales market accounts for a *** amount of Lehigh's sales of Lumnite. In addition, average unit values reported by producers for bulk sales of Lehigh's Lumnite were *** than those reported for another comparable Lafarge CA product, Fondu. Figure 3, CR at I-105, PR at II-26, Figure 5, CR at I-108, PR at II-26. Producers and purchasers reported average unit values for packaged sales of Lehigh's Refcon that were *** than those reported for Lafarge CA's comparable product, Secar 51. Figure 2, CR at I-102, PR at II-25, Figure 4, CR at I-107, PR at II-26. Nonetheless, Lehigh's Refcon accounted for *** bulk sales after 1990 relative to Lafarge CA's bulk sales of Secar 51. Table 24, CR at I-104, PR at II-26. The average unit values reported by purchasers for bulk sales of Lafarge's Secar 51 ***; ***; values for Secar 51 were *** than those reported for purchases of Lehigh's comparable product, Refcon. Figure 5, CR at I-108, PR at II-26.
115 The average unit values are at the same level of trade, since these data are provided on a weighted-average Lo.b plant basis. However, the effect of the variations in transportation costs on the purchasing decisions of the customers is not easily comparable.
117 See discussion supra.
118 Commissioner Crawford notes that the evidence supports a relatively low elasticity of demand. The elasticity of demand measures the responsiveness of the overall quantity demanded of ordinary CA cement to a change in the U.S. market price of ordinary CA cement. In this investigation, ordinary CA cement represents only a moderate share of the cost of production for the majority of users. See EC-R-044. Moreover, there is a lack of reasonable substitutes for ordinary CA cement. The evidence in the record suggests a low elasticity of demand in the range of 0.5 to 1. When there is a low elasticity of demand, purchasers do not respond as readily to changes in price.
119 CR at I-93, PR at II-23.
The evidence in the record does not substantiate any of the allegations of either lost sales on the basis of price or lost revenues.\textsuperscript{120} \textsuperscript{121} In fact, a review of the information compiled to verify the lost sales and lost revenue allegations confirms that firms’ rare decisions to purchase a different type or brand were made principally on the basis of non-price reasons rather than price.\textsuperscript{122}

The evidence of record therefore does not support the conclusion that subject imports have significantly undersold the domestic products or that the prices of the subject imports have had a significant depressing or suppressing effect on the prices of the domestic CA cement products.

\textbf{C. Impact of Imports on the Domestic Industry}

We also have considered the impact of imports on the domestic industry producing CA cement and CAC clinker. In this case we find that the volume of imports of CAC clinker and the market share of the shipments of CA cement processed from the imported CAC clinker have not had an adverse impact on the domestic industry. The domestic supplier, Lehigh, and the foreign supplier, Lafarge, each dominate a different sector of the market. The non-refractory sector dominated by Lafarge has shown increased consumption for CA cement during the period of investigation. In contrast, the refractories sector dominated by Lehigh has shown declining demand for CA cement due to the use of less CA cement in end-products and the effects of the economic recession on major end-users, such as the steel industry.\textsuperscript{123}

While the condition of the domestic industry is poor, the evidence fails to establish a causal connection between its condition and the dumped imports. We therefore determine that the U.S. industry producing CA cement and CAC clinker is not materially injured by reason of the imports of CA cement and CAC clinker from France.

\textbf{V. No Threat of Material Injury by Reason of the Subject Imports}

Section 771(7)(F) of the Act directs the Commission to consider whether a U.S. industry is threatened with material injury by reason of the

\textsuperscript{120} CR at I-110 and 111, Appendix K, PR at II-26 and II-27, Appendix K.

\textsuperscript{121} Commissioner Crawford does not rely on anecdotal evidence of lost sales and revenues showing that competition from the subject imports caused domestic producers to lose particular sales or forced them to reduce their prices on other sales in reaching her determination.

\textsuperscript{122} Commissioner Crawford notes that the evidence in this investigation supports a relatively high elasticity of domestic supply. In this investigation, the elasticity of domestic supply is defined as a measure of the extent to which U.S. producers are likely to have responded to a change in demand for the domestic product as a result of the dumping. The elasticity is estimated to be between 4 and 8. This reflects the domestic industry’s relatively low capacity utilization, \(***\) inventory levels, \(***\) of export markets and the \(***\) nature of production facilities. See EC-R-044 at 26 to 28.

\textsuperscript{123} Commissioner Crawford notes that the relatively high elasticity of supply suggests that there are no significant price effects from dumped imports. A high elasticity makes it more likely that domestic industry would increase output rather than raise prices. However, the relatively low dumping margin, the low substitutability between domestic product and the dumped products, and the concentration of growth in the market sector in which Lafarge is the majority supplier suggest there are no significant effects from dumped imports on the volume of domestic product sold. Even if imports were sold at fair prices, it is likely that there would continue to be a substantial level of imports sold in the domestic market. The low substitutability makes it unlikely that purchasers would switch to domestic products in significant quantities as a result of any relative price changes from the elimination of dumping. As such, Commissioner Crawford does not find that the domestic industry’s output and revenues would have increased materially if imports were fairly priced.
subject imports "on the basis of evidence that the threat of material injury is real and that actual injury is imminent." The Commission is not to make such a determination "on the basis of mere conjecture or supposition."

We have considered all the statutory factors that are relevant to these investigations. In assessing whether the domestic industry is threatened with material injury by reason of LTFV imports, it is relevant to discuss some data separately for imports of CAC clinker and CA cement.

We do not find that there is any increase in production capacity or unused capacity in France likely to result in a significant increase in imports of CAC clinker to the United States. Capacity utilization levels of the French producer were *** throughout the period of investigation.

The record does not suggest that there will be any rapid increase in United States market penetration of CAC clinker from France, nor is there a likelihood that the penetration will increase to an injurious level. Although the volume of CAC clinker imports into the United States has been relatively large and irregular, there has not been a rapid increase in market penetration, measured in terms of share of CA cement consumption, over the period of investigation. Respondent acknowledged that CAC clinker exports to the United States would *** in 1994, but asserted that they would *** in 1995. According to Lafarge, the *** in exports of CAC clinker to the United States projected for the future is, as has been the case in the past, largely due to the shipping schedule of the product. Lafarge Fondu's exports of CAC clinker to the U.S. market account for a *** share of its total shipments of CAC clinker, ranging from *** percent to *** percent during the period of investigation. Home market

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124 19 U.S.C. §§ 1673(d)(b) and 1677(7)(F)(ii).
In addition, the Commission must consider whether dumping findings or antidumping remedies in markets of foreign countries against the same class or kind of merchandise suggest a threat of material injury to the domestic industry. See 19 U.S.C. section 1677(7)(F)(iii), as amended by 1988 Act section 1329.
127 Several of the statutory threat factors have no relevance to this investigation and need not be discussed. Because there are no subsidy allegations, factor I is not applicable. Moreover, factor IX regarding raw and processed agriculture products also is not applicable to this case.
128 See discussion supra, Section III, Condition of the Domestic Industry.
129 Table 18, CR at I-67, PR at II-16. Lafarge *** and its capacity utilization levels for CA cement are *** than for CAC clinker. Table 17, CR at I-65, PR at II-16. Lafarge indicated that this *** CR at I-64, PR at II-16. Additional production of CA cement is restrained by the ***. Moreover, Lafarge's exports to the United States historically have been of CAC clinker rather than CA cement due to problems with ocean shipping of cement. There is no evidence to suggest that the *** is likely to result in exports of CA cement to the United States, contrary to the historical pattern. See S. Rep. No. 249, 96th Cong., 1st Sess. 88-89 (1979); Cifuentes Paulista v. United States, 704 F. Supp. 1075, 1095 (Ct. Int'l Trade 1988) (Commission's determination may not be based on mere conjecture or supposition.)
130 Table 18, CR at I-67, PR at II-16.
131 Table 18, CR at I-67 and I-68, PR at II-16. Respondent's Posthearing Brief at 12.
132 CR at I-68, PR at II-16. As noted above, the irregularities in the volume of CAC clinker imports has been the result of shipping schedules. According to Lafarge, due to *** is planning to ***, which will enable the firm to *** in the future. CR at I-69, n.82, PR at II-16, n.82.
133 Table 18, CR at I-67, PR at II-16.
 shipments account for the *** share of Lafarge Fondu's shipments of CAC clinker, with a *** share of shipments exported to third countries. The market share held by U.S. shipments of CA cement produced from CAC clinker increased largely as a result of Lafarge’s continued dominance in the non-refractories sector where apparent consumption increased by *** percent from 1990 to 1993. As discussed above, the record does not indicate that Lehigh's decline in market share was a result of LTFV imports, but was a result of the decrease in consumption within the refractories sector of the market, where Lehigh is the dominant supplier. Moreover, there is no evidence to suggest an imminent change in these trends.

The record does not support a finding that the inventories in the United States will have an injurious effect on the U.S. industry. The import inventories have fluctuated over the period of investigation. Lafarge CA has projected that it will *** inventory. However, since the inventory level in 1993 was ***. Moreover, Lafarge CA's ability to increase shipments of CA cement is limited by its capacity to grind CA cement from imported CAC clinker. There is no indication in the record to suggest any likely increase in Lafarge CA's grinding capacity. Its grinding capacity is currently utilized at *** levels.

We do not find that imports will enter the United States at prices that will have a depressing or suppressing effect on domestic prices. As discussed above, we found comparative prices to be of limited value in our determination due to product differentiation, transportation costs and the different stages of production represented by imports and market sales. Moreover, we found that firms made purchasing decisions most often on the basis of non-price factors. There is no indication that future imports would be any more likely to affect prices adversely in the near future than they have during the period of investigation.

There are no “other demonstrable adverse trends” that indicate that imports will be the cause of actual injury, nor are there “actual and potential negative effects on existing development and production efforts of the domestic industry.” We therefore find that the domestic industry producing CA cement and CAC clinker is not threatened with material injury by reason of the LTFV imports from France.

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134 Table 18, CR at I-67, PR at II-16. Home market shipments as a share of Lafarge Fondu's total shipments of CAC clinker accounted for ***. While third country shipments as a share of Lafarge Fondu's total shipments of CAC clinker *** from *** percent in 1990 to *** percent in 1993, home market shipments ***. Lafarge Fondu has processed this CAC clinker into CA cement and exported a *** portion of the CA cement to third country markets. Table 17, CR at I-65, PR at II-16. Lafarge Fondu appears to be shifting its third country shipments to ***.

135 Chairman Newquist notes that significant home and third market consumption often suggests that there is a considerable amount of product which may be directed to the United States. For this investigation, however, Chairman Newquist does not find such diversion to be imminent.

136 CR at I-74, Table D-1 and D-2, CR at D-3 and D-4; PR at II-18 and D-2. By comparison, Lafarge's total U.S. shipments of ordinary CA cement increased by *** percent from 1990 to 1993. Id.

137 CR at I-68, PR at II-16. U.S. end-of-period inventories of ordinary CAC clinker by Lafarge CA were ***. Id.

138 CR at I-68, PR at II-16.

139 Table 7, CR at I-31, PR at I-10. Lafarge CA's capacity utilization rate for ordinary CA cement was *** percent in 1993. This level is significantly *** than that reported by Lafarge Fondu and *** than that reported by Lehigh for CA cement.

140 CR at I-100 - I-109, PR at II-25 - II-26.


142 See 19 U.S.C. §§ 1677(7)(F)(x)(VIII) and (X).
Conclusion

For the reasons discussed above, we find that the domestic industry producing ordinary CA cement and clinker is neither materially injured nor threatened with material injury by reason of LTFV imports from France.
PART II
INFORMATION OBTAINED IN THE INVESTIGATION
Introduction

Following a preliminary determination by the U.S. Department of Commerce (Commerce) that imports of certain calcium aluminate cement and cement clinker from France are being, or are likely to be, sold in the United States at less than fair value (LTFV) (58 FR 58683, Nov. 3, 1993),1 the U.S. International Trade Commission, effective November 1, 1993, instituted investigation No. 731-TA-645 (Final) under section 735(b) of the Tariff Act of 1930 (the Act) (19 U.S.C. 1673d(b)) to determine whether an industry in the United States is materially injured or threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports of such merchandise. Notice of the institution of the Commission's investigation and of a public hearing to be held in connection therewith was posted in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and published in the Federal Register on December 22, 1993 (58 FR. 67809).2 The hearing was held in Washington, DC, on March 31, 1994.3

Commerce notified the Commission of its final LTFV determinations with respect to (1) ordinary CA cement and ordinary CAC clinker and (2) CA flux on March 23, 1994, and published its notice of final LTFV determinations in the Federal Register (59 FR 14136, March 25, 1994). Commerce determined that imports from France of (1) ordinary CA cement and ordinary CAC clinker and (2) CA flux are being, or are likely to be, sold in the United States at LTFV.4 The applicable

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1 As defined by Commerce in its "scope of investigation" statement, the products covered by this investigation consist of calcium aluminate cement, cement clinker, and flux, other than white, high purity calcium aluminate cement, cement clinker, and flux. The covered products contain by weight more than 32 percent but less than 65 percent alumina and more than 1 percent each of iron and silica (and are referred to in this report as "ordinary" grade). In its preliminary investigation, Commerce found that the products constitute two separate classes or kinds of merchandise: (1) calcium aluminate cement (ordinary CA cement) and calcium aluminate cement clinker (ordinary CAC clinker) and (2) calcium aluminate flux (CA flux).

Ordinary CA cement is provided for in subheading 2523.30.00 of the Harmonized Tariff Schedule of the United States (HTS). Ordinary CAC clinker and CA flux are provided for in subheading 2523.10.00 of the HTS.

2 Copies of cited Federal Register notices are presented in app. A.

3 The list of participants in the Commission's hearing is presented in app. B.

4 In its final determinations (59 FR. 14136, Mar. 25, 1994), Commerce clarified its definitions of CA cement/cement clinker and CA flux. Commerce stated that: "CA cement/cement clinker and CA flux have significantly different physical characteristics and end uses. CA cement is a specialty hydraulic nonportland cement used for construction purposes. CA cement clinker is the primary material used as a binding agent in the production of CA cement. CA flux is used primarily as a desulfurizer and/or cleaning agent in the steel-manufacturing process. CA clinker produced for sale statute directs that the Commission make its final injury determination before 45 days after an affirmative final determination by Commerce on ordinary CA cement and ordinary CAC clinker."

Background

This investigation results from a petition filed by Lehigh Portland Cement Co. (Lehigh) on March 31, 1993, alleging that an industry in the United States is materially injured or threatened with material injury by reason of LTFV imports of certain calcium aluminate cement products (including CA flux) from France. In response to that petition the Commission instituted investigation No. 731-TA-645 (Preliminary) under section 733 of the Act (19 U.S.C. 1673b(a)) and, on May 17, 1993, determined that there was a reasonable indication of such material injury by reason of allegedly LTFV imports.

Previous Commission Investigations Concerning Cement

Although there have been earlier Commission investigations concerning cement dating back to 1960, none involved CA cement. All but one of the earlier investigations covered portland cement, other than white, nonstaining portland cement; several investigations involved cement clinker as well. Of the 14 completed investigations, all but 1 (in 1986) were determined on the basis of a regional, rather than a national, industry. The present investigation concerns a national industry.

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4—Continued

as flux cannot be used to produce CA cement, and CA clinker used to produce CA cement cannot be used as a flux in the production of steel. CA flux has a chemical composition distinct from CA cement clinker. CA cement clinker contains the hydraulic mineral mono-calcium aluminate, which gives it a molar ratio of lime to alumina of approximately 1:1. In contrast, CA clinker sold as a flux does not contain mono-calcium aluminate; it contains the complex mineral $\mathrm{C_3A_{47}}$ (12$\mathrm{CaO} \cdot 7\mathrm{Al_2O_3}$), which gives it a molar ratio of lime to alumina of approximately 2:1. This higher lime to alumina ratio gives the CA clinker sold as a flux a lower melting point than CA cement, and also results in extra lime which can bond with sulfur and other impurities in molten steel. Although CA clinker sold as flux has some hydraulic properties, it hydrates too quickly to be used for those properties."

5 Because Commerce made a negative preliminary determination with respect to CA flux (58 FR. 58683, Nov. 3, 1993), the Commission is directed by statute to make its final determination on CA flux before 75 days after the date of Commerce's final affirmative determination. Accordingly, the Commission will make its determination with respect to CA flux by June 6, 1994. This staff report includes only that information on CA flux which is relevant to the Commission's like product analysis with respect to ordinary CAC clinker.
The Products

Description and Uses

The materials covered within the scope of this investigation are ordinary CA cement and ordinary CAC clinker. White, high-purity CA cement and clinker are specifically excluded from the scope of investigation, but are discussed so that the Commission may consider whether to include them in the like product. Where necessary, ordinary CA cement (and clinker) and white CA cement (and clinker), and CA flux are referred to in the aggregate in this report as "CA cement products."

Ordinary CA Cement

Ordinary CA cement is a specialty hydraulic, nonportland cement that, unlike portland cement, has a high alumina content (see table 1 for a comparison of the chemical composition and melting points of different CA cements and portland cement). Ordinary CA cement has a compressive strength that, after the first 24 hours, exceeds the strength of gray portland cement after 28 days. The high alumina content of CA cement (both ordinary and white) renders it resistant to extreme temperatures and to chemical corrosion. Ordinary CA cement has an effective binding strength at extreme temperatures of 2,500 degrees Fahrenheit (F) to 2,900 degrees F (3,000 degrees F under optimal lab conditions). It resists corrosion from salt or sulfate waters or from weak solutions of mineral acids. The working time for ordinary CA cement is longer than that for white high-purity CA cement, typically setting in 60-90 minutes. Ordinary CA cement is tan, gray, or black in color.

Table 1
Comparison of cements: Ranges of chemical composition and melting points

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</thead>
</table>

Ordinary CA cement is primarily used as a binding agent in other mixtures. When blended with different kinds of aggregates and with water, ordinary CA cement imparts unique chemical and physical properties to concrete mixes used in specialized refractory and construction applications. Producers of refractory products purchase ordinary CA cement for use in producing castables and gunning mixes, which are then sold to manufacturing facilities for use in high-heat applications. Castables are usually dry mixes that are designed (after the addition of water) to be molded into special shapes at the installation site. Gunning mixes (which are generally used for repairs) are blown onto surfaces and will adhere to them.

In the construction industry, ordinary CA cement is used to make a variety of concrete mixes for specialty applications, including fire-resistant coatings for structural units, acid-resistant pipe linings, masonry for industrial stacks and chimneys, and fireplace hearth units. Typical corrosion-resistant applications include interspersed floor sections of ordinary CA cement-bonded concretes and coatings over portland concrete floors in facilities such as dairy plants, breweries, slaughterhouses, bottling plants, tanneries, and sugar-processing plants that use chemicals. In typical temperature-resistant applications, ordinary CA cement bonded concretes are used as floor sections or coatings to withstand the heat impact from dropped furnace-fired materials or molten spills.

Both domestically-produced and imported ordinary CA cement can be physically interchangeable, but the interchangeability depends upon the application. Chemistries and product performances differ, both between U.S. sourced and imported product and among different formulations offered by individual suppliers, as shown in table 1.

White CA Cement

White CA cement has a higher alumina content and a lower calcium content than ordinary CA cement. It is produced from a high-purity lime (i.e., the source of

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6 As stated earlier, CA flux is also subject to investigation, but will be specifically addressed in a subsequent report.
7 The U.S. Bureau of Mines estimates that portland cement alone accounts for about 95 percent of U.S. cement production; there is no public information on what portion of the remainder is accounted for by ordinary CA cement.
8 **
9 Working time measures the time in which a cement can be manipulated after its mixture with aggregates and water; it is a determinant for evaluating a cement's suitability for different kinds of applications.
10 Petitioner's postconference brief, p. 18. According to **. Petitioner's prehearing brief, exhibit 1 (citing statement by **).
11 Refractories are materials that have the ability to maintain their physical shape and chemical identity after being subjected to temperatures above 1,000 degrees F. Usually, refractory materials are also resistant to corrosion. Refractories are used in industry to line high-temperature furnaces and reactors that produce metals, generate power, and refine petrochemicals and oil. They are made in a vast variety of shapes and forms, which include refractory brick and specialty products. Ordinary CA cement is one of the materials used in specialty refractory linings.
12 In its questionnaire response in the Commission's final investigation, *** states "in product formulation, regardless of the application, no producer would substitute a raw material such as cement without testing and making some small adjustments. The degree of adjustment depends on the application and the formulation." *** responded in the affirmative to an item in the questionnaire which asked whether or not "the U.S. produced and imported products generally can be used interchangeably."
calcium) and from calcined or hydrated alumina. In contrast to ordinary CA cement, both input materials for white CA cement are obtained by a chemical and/or heat-treatment process to reduce limestone and bauxite to a more purified state of lime and alumina. White CA cement is low in iron and silica and is always white in color. It is the only CA cement that can be used in the manufacture of certain precious alloy metals and in catalyst support systems requiring a stable surface area; use of ordinary CA cement, with higher iron and silica impurities, would cause contamination. Primarily due to the higher alumina content, white CA cement is also the only CA cement that can be used in steelmaking operations, where refractories are required to withstand temperatures ranging from 3,200 degrees F to 3,300 degrees F. Ordinary CA cement fails at these ranges. Reportedly, because the amount of alumina is increased and calcium is decreased, the hydraulic strength of white CA cement is weaker than that of ordinary CA cement. White CA cement particles are finer in size and more diffuse than particles of ordinary CA cement; this factor contributes to the shorter working time for white CA cement. In its response to the Commission’s questionnaire in the final investigation, *** stated that “***.”

Ordinary CAC Clinker and CA Flux

Ordinary CA clinker products serve two functions: (1) as an intermediate material for producing ordinary CA cement (ordinary CAC clinker) and (2) as a fluxing agent to remove undesirable sulfur from steel (CA flux). A similar raw material mixture, consisting of crude, uncalcined bauxite (the source of alumina, iron, and silica oxides) and limestone (the source of calcium oxide), is used to produce both types. The resulting product appears as tan, gray, or black pellets, with coloration determined by the amount of oxygen in the kiln during the burning stage and by the iron content of the bauxite. Although CA flux and ordinary CAC clinker are composed of the same raw materials, they differ in the ratio of calcium to alumina, and, as a result, have different chemical and physical characteristics. The following tabulation compares the two products:

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>CA Flux</th>
<th>CAC Clinker</th>
</tr>
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<tbody>
<tr>
<td>Calcium oxide content</td>
<td>over 41% by weight</td>
<td>less than 41% by weight</td>
</tr>
<tr>
<td>Molar ratio of lime to</td>
<td>2:1, which results in</td>
<td>1:1, which results in</td>
</tr>
<tr>
<td>alumina</td>
<td>a dominant complex</td>
<td>some C12A7 and a</td>
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<tr>
<td></td>
<td>mineral of C12A7 and</td>
<td>dominant complex</td>
</tr>
<tr>
<td></td>
<td>no calcium aluminates</td>
<td>mineral of calcium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>aluminates</td>
</tr>
</tbody>
</table>

Specifically, it is the existence of calcium aluminate, due to the 1:1 calcium to alumina ratio, that distinguishes ordinary CAC clinker and CA cement from CA flux and from portland cement. Because of the difference in its chemical composition, ordinary CA flux cannot be used to produce ordinary CA cement and the clinker used to produce ordinary CA cement cannot be used for flux.

Production Process

Ordinary CAC Clinker and CA Flux

Because the difference between clinker used for CA cement and that used for CA flux is the ratio of calcium (from limestone) to alumina (from bauxite), the first step in the production process is to determine which clinker will be produced so that the necessary ratio of raw materials may be determined. That decision made, there are two standardized processes used to blend the raw materials for both CA flux and ordinary CAC clinker—sintering. Currently used in

20 Petitioner’s and respondent’s postconference briefs.
21 CA flux has a lower melting point than ordinary CAC clinker. Its hydraulic properties are so strong (or quick) that it cannot be easily “worked.” (Hydraulic” refers to the capacity to harden under water.) Johnny Love, conference transcript, p. 69.
22 When CA flux is mixed with molten steel, its higher calcium content allows sulfur impurities from the steel to unite chemically with the flux, forming a slag which separates to the top of the steel batch and can be removed. The calcium ingredient of CA flux also serves to lower the melt temperature of a steel batch, reducing the quantity of fuel required in the steel production process. R.K. Sinha, Industrial Minerals, second ed., (Rotterdam: A.A. Balkema, 1986), p. 241.
23 The sintering process is similar to that used for making gray portland cement clinker, except the preheater and kiln are smaller and specially designed for ordinary CAC clinker. For example, daily kiln production capacity for ordinary CAC clinker is about *** short tons compared with 2,000-5,000 short tons for gray portland cement clinker. The size difference in production equipment reflects lower market demand for ordinary CA cement and more rigid chemistry control requirements.

13 In their responses to Commission questionnaires in the final investigation, *** reported that they produced ordinary CA cement/CAC clinker from bauxite, whereas *** stated that they produced white CA cement/CAC clinker from pure alumina.
14 White CAC clinker is the intermediate. White CAC clinker has no other known uses other than the production of white CA cement.
15 Petitioner’s prehearing brief, p. 9.
16 Petitioner’s prehearing brief, p. 10.
17 Staff visit to Lehigh’s manufacturing facility, Jan. 6, 1994.
18 Petitioner’s prehearing brief, exhibit 1 (citing statement by ***).
the United States (figure 1),24 and fusion,25 currently used to produce the imported subject products. While the primary raw materials are the same for both processes, fusion takes raw materials to the melting point and sintering steps just short of melting. The differences between the two processes for making CA flux and ordinary CAC clinker are procedural; there are no resulting differences in chemical or physical characteristics between the end products for either process. In both processes, production of the clinker takes place on a continuous basis, with allowances for maintenance downtime.

Figure 1
Lehigh’s production process

* * * * * * * * *

Ordinary CA Cement

All ordinary CAC clinker is finished into ordinary CA cement by dry grinding the clinker in a ball mill to the desired consistency, usually of powder fineness. Unlike gray portland cement, where gypsum is added during the grinding process, ordinary CAC clinker is typically ground without the use of additives, which change the chemical properties and physical characteristics of the product. The grinding process reportedly accounts for a small percentage of the overall production cost for ordinary CA cement.

White CAC Clinker and White CA Cement

White, high-purity CA cements are generally produced using the sintering process; sintering must be employed for white CA cement, which has an alumina content of 80 percent.26 Respondent has reported instances of production by fusion in an electric arc furnace in Japan and Brazil, which may employ a variation of the fusion process described above.27 Because of the differences in the chemical and physical characteristics of white CA cement and ordinary CA cement, it is not possible to produce both products at the same time on production systems currently in operation. Further, it is not possible to produce both products on the same system without thoroughly purging the production system to avoid contaminating the white, high-purity material.28 Even then, the feasibility of producing both ordinary and white CA cement materials at the same facility and/or on the same production system is contingent on quality control and plant efficiency. The size of the kilns currently used to produce ordinary and white CAC clinker in the United States differ: Lehigh’s kiln capacity to produce ordinary CAC clinker is *** short tons annually; in contrast, the capacity of the kiln used by Lafarge CA to produce white CAC clinker is ***.29

Like Product Issues

During its preliminary investigation the Commission examined several like product issues, notably (1) whether CA cement clinker manufactured for sale as flux (CA flux) constitutes a separate like product from CA cement clinker manufactured for grading into CA cement (CAC clinker); (2) whether other non-clinker flux agents are like CA flux; (3) whether CAC clinker and CA cement constitute one like product and (4) whether white CA cement and CAC clinker are like ordinary CA cement and CAC clinker so as to be included in any CA cement like product.30 The Commission found that CA cement clinker manufactured for use as flux is a like product separate from CAC clinker.31 It further determined not to include non-clinker flux agents in the CA flux like product.32 CAC clinker and CA cement were found to

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23—Continued

In the sintering process, raw materials are drycrushed and blended to the desired alumina content. *** A centralized computer system provides continuous monitoring and recording of the actual production process against established norms. This allows control of product quality at each stage of the production process by pinpointing necessary material mix and equipment adjustments on a timely basis. Staff visit to Lehigh, Jan. 6, 1994.

24 ***. Staff visit to Lehigh, Jan. 6, 1994.

25 The fusion process is usually conducted in an open-hearth furnace with a vertical stack in which the mixture of raw materials is charged. Pulverized coal, used to heat the furnace, produces a blast of hot air and gases that pass through the charged material, carrying off water and carbon dioxide. Fusion occurs when the charged material drops from the vertical stack onto the hearth at temperatures of about 2,600 to 2,730 degrees F. The fused, molten liquid runs out of the furnace on a continuous basis into steel pans on a conveyor belt system, where it cools and solidifies. Fusion can also be conducted in electric arc furnaces and in specially designed rotary kilns fitted with a tap hole from which molten liquid is drawn intermittently. Encyclopaedia of Chemical Technology, 3d ed., vol. 5 (New York: John Wiley & Sons, Inc., 1979), p. 187.

26 Petitioner’s prehearing brief, exhibit 2, p. 4 (**). 27 Respondent’s postconference brief, exhibit 2, attachment 1. 28 Petitioner’s prehearing brief, exhibit 1 (citing statement by ***). 29 Lehigh states in its prehearing brief (p. 15) that “the smaller kiln size used in producing white CA clinker enhances the ability to control phase chemistry development, which is important in the production of high purity CA clinker.” 30 See USITC, Certain Calcium Aluminate Cement and Cemrnt Clinker from France, USITC publication No. 2637, May 1993, p. 6. 31 Ibid., p. 8. 32 Ibid., p. 11.
constitute one like product.\textsuperscript{33} Last, it concluded that white CA cement and white CAC clinker were not like ordinary CA cement and CAC clinker.\textsuperscript{34}

Data for firms' manufacturing and importing operations of ordinary CA cement and ordinary CAC clinker (the subject products) are presented in the body of this report. To permit the numerical aggregation of ordinary CAC clinker and CA flux (which is desirable when measuring such indicators of industry performance as capacity utilization), some data on CA flux are also presented in the main section of the report. Complete data on CA flux and on white CA cement and white CAC clinker are available in summary tables in appendix C.

\textbf{U.S. Tariff Treatment}

U.S. imports of ordinary CA cement from countries entitled to the column 1-general (most-favored-nation) duty rate, including France, enter free of duty under subheading 2523.30.00 of the HTS.\textsuperscript{35} U.S. imports of ordinary CAC clinker from countries entitled to the column 1-general duty rate enter free of duty under subheading 2523.10.00.\textsuperscript{36}

\textbf{The Nature and Extent of Sales at LTFV}

The following tabulation provides the LTFV margins as determined by Commerce for CA cement and CAC clinker from France (in percent):

<table>
<thead>
<tr>
<th>Firm</th>
<th>Weighted-average margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lafarge Fondu</td>
<td>18.91</td>
</tr>
<tr>
<td>All others</td>
<td>18.91</td>
</tr>
</tbody>
</table>

In order to obtain the estimated dumping margins of product imported from France, Commerce compared the U.S. price (USP) of CA cement and CAC clinker\textsuperscript{37} with its foreign market value (FMV) during the period of investigation (POI), October 1, 1992 through March 31, 1993.

\textbf{Calculation of USP.—}Since all of Lafarge's U.S. sales to the first unrelated purchaser occurred after importation in to the United States, Commerce based USP on exporter's sales prices (ESP) of cement. USP was calculated from packed or bulk, ex-U.S. warehouse or delivered prices to unrelated U.S. customers (with appropriate deductions for transportation costs and selling expenses). Commerce also adjusted inventory carrying costs to reflect the period between production of the clinker in France and shipment of the "finished" cement to the U.S. customer and deducted all value added in the United States by the grinding of the clinker, including the profit attributable to that value.

\textbf{Calculation of FMV.—}Because Lafarge Fondu only exported clinker (and not cement) to the United States and because there were no home market sales of clinker or sales to unrelated customers in third countries during the POI, Commerce based FMV on the constructed value (CV) of clinker. It calculated CV as the sum of Lafarge's cost of materials, fabrication, general expenses, U.S. packing costs, and profit.

In response to a request from Commission staff, Commerce provided the following information (in a letter dated April 1, 1994) for its antidumping duty investigation on ordinary CA cement/clinker:

1. The quantity and value of total U.S. sales of the merchandise from France during the POI: *** short tons, $***.\textsuperscript{1}

2. The quantity and value of sales examined: *** short tons, $*** (gross), $*** (net);\textsuperscript{2}

3. Of the sales examined, the quantity and value found to be at LTFV: *** short tons, and $***;\textsuperscript{2} and

4. The range of affirmative margins found: *** to ***.

\textsuperscript{1} These figures include the quantity and value of certain unreported U.S. cement sales which Commerce included in its final analysis using best information available (BIA). The verified quantity and value relevant to these unreported sales are *** short tons and $***.

\textsuperscript{2} These figures exclude the BIA quantity and value of unreported cement sales factored into its final margin calculations.
The U.S. Market

Apparent U.S. Consumption of Ordinary CA Cement and Ordinary CAC Clinker

Table 2 presents apparent U.S. consumption of ordinary CA cement and ordinary CAC clinker.\(^39\)

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>* * * * * * *</td>
</tr>
</tbody>
</table>

As stated earlier, data on CA flux and white CA cement products are presented in appendix C. The data in table 2 show that the quantity of apparent U.S. consumption of ordinary CA cement declined irregularly by *** percent between 1990 and 1993. There was a comparable decline of *** percent in the quantity of CAC clinker consumed internally in the production of CA cement. The U.S. market is comprised of two key sectors which reflect the two major end uses of the product: namely, refractories and specialty building products (or non-refractories). Data on consumption within each of these markets are presented in table D-1 and table D-2. Market dynamics are discussed in the sections of this report entitled "Shares for the Refractory and Non-Refractory Market Segments" and "Pricing and Marketing Considerations."

U.S. Producers of CA Cement Products

Firms that produce CA cement products are identified in table 3; the quantity of their U.S. production is provided in table 4.

<table>
<thead>
<tr>
<th>Table 3: CA cement products: U.S. producers, plant locations, positions on the petition, and products imported</th>
</tr>
</thead>
<tbody>
<tr>
<td>* * * * * * *</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 4: CA cement products: U.S. producers’ production and share of U.S. production, by firms, 1993</th>
</tr>
</thead>
<tbody>
<tr>
<td>* * * * * * *</td>
</tr>
</tbody>
</table>

Lehigh, the petitioner in this investigation, is the only current domestic producer of the subject clinker. Two firms—Lehigh and Lafarge CA—grind ordinary CAC clinker into ordinary CA cement. All of the clinker that is ground by Lehigh is produced at its plant in Gary, IN.\(^40\) The clinker ground by Lafarge CA in its Chesapeake, VA, facility\(^41\) is manufactured by and imported from its parent company in France.

In the preliminary investigation, petitioner argued that Lafarge CA is not a member of the domestic industry because it performs only an allegedly minor finishing operation (grinding) in the United States and is a related party within the meaning of the law.\(^42\) Lafarge CA states that it is a "major producer in the United States with a substantial payroll and a total capital investment that it believes is many times that of the petitioner in this case."\(^43\) In its preliminary determination (citing, specifically, the substantial

\(^{38}\) The data for the following section on the U.S. market (and for the other sections of this report) are based primarily on the responses of industry participants to Commission questionnaires.

\(^{39}\) The March 31, 1993 petition and June 29, 1993 amendment filed by Lehigh include CA flux which contains by weight more than 32 percent but less than 65 percent alumina and more than 1 percent each of iron and silica (i.e., which meets the standard for "ordinary" product). Petitioner believed itself to be the only producer of CA flux and stated in its June 29, 1993 amendment (p. 2) that "calcium aluminate clinker produced for sale as calcium aluminate flux . . . falls within these specifications for ordinary CA cement and clinker." There is, however, a second U.S. producer of CA flux which manufactured *** amounts of the product which ***. "CA flux" is not defined to be limited to ordinary grade specifications and data for all CA flux products are included in data compilations in this report.

\(^{40}\) Lehigh also produces gray portland cement and cement clinker, but in production facilities at other locations. No other products are made at the Gary facility.

\(^{41}\) Response by Lafarge CA to importers’ questionnaire. Lehigh does not manufacture a product that directly competes with Pondag.

\(^{42}\) Petition, p. 6. 7

\(^{43}\) Conference transcript, p. 54.
capital investment and the value added in the United States), the Commission found that Lafarge CA is a domestic producer of the subject CA cement and cement clinker like product. However, the Commission also found that Lafarge CA was a related party and that appropriate circumstances existed to exclude it from the domestic industry producing CA cement and cement clinker.44

Lafarge CA also produces nonsubject white CA cement and white CAC clinker at its facility in Chesapeake, VA. The firm argued in the preliminary investigation that it could produce ordinary CAC clinker using the kiln that is used to manufacture white CAC clinker. However, ***45 it has never actually done so46 and the grinding equipment used to produce ordinary CA cement is separate from that used for white CA cement.47 The production and related workers (PRWs) at Lafarge CA manufacture both products. Lehigh states that it could only produce white CA cement in a facility that is separate from its current ordinary CA cement manufacturing operations. It claims that a new facility would be necessary to avoid contaminating the raw materials used to make the white CA cement48 and would require a capital investment of ***49.

Lehigh produces CA flux in its Gary, IN facility; Lafarge CA imports CA flux manufactured by its parent, Lafarge Fondu, in France.50 ***51

In addition to Lehigh and Lafarge CA, a third firm (Refractory Materials, Inc. or RMI) produced CA cement products for the U.S. market during the 1990-93 period. ***52 ***53 ***54 ***55 ***56

44 USITC, Certain Calcium Aluminate Cement and Cement Clinker from France, USITC publication No. 2637, May 1995, pp. 18-21.
45 Response by Lafarge CA to producers’ questionnaire in the final investigation.
46 Conference transcript, p. 111. Lafarge CA contends that *** (postconference brief, exhibit 2, p. 2). Lafarge Fondu indicates that it has *** (postconference brief, exhibit 2, pp. 3-5).
47 Conference transcript, p. 100, and Lafarge CA’s response to questionnaire in the final investigation.
48 Any contamination by extraneous substances increases the level of impurities in the finished product. White CA cement is purchased for its higher alumina content and because it contains a lesser amount of such impurities as iron. See table 1 for data on the chemical composition of ordinary CA cement and white CA cement.
49 Response by *** to producers’ questionnaire in the final investigation.
50 ***. (Response by Lafarge CA to producers’ questionnaire.) *** value is added by these operations.
51 Response by Lehigh to producers’ questionnaire and by Lafarge Fondu to foreign producer questionnaire.
52 Total capital expenditures (including ***, but excluding ***) were $$$.
53 ***.
54 ***.
55 ***.
56 Response by *** to producers’ questionnaire and telephone conversation with ***.

U.S. Importers of CA Cement Products

Firms that import CA cement products are listed in table 5.

Table 5
CA cement products: U.S. imports, by firms, 1993

<table>
<thead>
<tr>
<th>Firm</th>
<th>Imports, by weight (metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lafarge CA</td>
<td>***</td>
</tr>
<tr>
<td>Lehigh</td>
<td>***</td>
</tr>
</tbody>
</table>

As shown, Lafarge CA is the only importer of the subject product from France.57 All of its subject imports are in the form of clinker; no ordinary CA cement is imported. Lafarge CA also imports CA flux and white CA cement in finished form. Small amounts of ordinary CAC clinker were imported from *** (by ***).58 and some ordinary CA cement was also entered from *** through ***.

Channels of Distribution of CA Cement Products

CA cement products are distributed by industry sources throughout the United States. Both Lehigh and Lafarge CA sell ordinary CA cement into a national market from their respective plants and from affiliated warehouses or terminals.59

Table 6 presents data on the channels of distribution of U.S. shipments of CA cement products. *** ordinary CA cement (and white CA cement) produced in the United States is sold directly to end users. In contrast, most CA flux is sold through distributors.60 Lehigh grinds all of its non-flux clinker into cement; it does not sell it to other firms for grinding. Similarly, *** the ordinary CAC clinker imported from France is ground into cement by Lafarge CA.

As set forth in the petition, and in connection with the petitioners' importation request, the petitioners have identified certain dealers that will be used as the distributors of imported CA cement.***

57 The petitioner confirms that Lafarge CA is the only importer of ordinary CA cement and/or ordinary CAC clinker from France and that France is virtually the only foreign source of such cement. Petition, pp. 1 and 4.
58 In response to the Commission's questionnaire, a second firm, ***, reported importing *** short tons of "ordinary CA cement" from France in 1991. The cement was produced in France by a company named ***. However, the firm provided further information that its product is a ready-to-use paste, containing aggregate, which does not meet the definition of ordinary CA cement. Staff conversation with ***.
59 ***
60 During the Commission's preliminary investigation, it gathered data on the form in which the products were packaged. From 1990 to March 1993, approximately *** of ordinary CA cement was sold in packaged form; the remainder was sold in bulk form from trucks or from rail transport. Ordinary CA cement is typically packaged in bags, each filled bag weighing 94 pounds. ***
61 Lehigh sells *** of its CA flux to an unrelated distributor, National Recovery Systems (NRS), in East Chicago, IN, ***. ***
Table 6
CA cement products: Channels of distribution of U.S. shipments, by products and by firms, 1992

Consideration of the Question of Material Injury to an Industry in the United States

Section 771(7)(B) of the Act (19 U.S.C. § 1677(7)(B)) provides that in making its determination in these investigations the Commission—

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

May consider such other economic factors as are relevant to the 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—

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 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)(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, profits, productivity, return on investments, 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, and (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 like product.

Since CAC clinker is an intermediate material used in the production of finished CA cement, data on consumption, production, capacity, and capacity utilization must be evaluated separately for CAC clinker and finished CA cement to avoid double counting or any other aberrations. As noted earlier, data for clinker product sold as CA flux are presented separately. Data for Lehigh and Lafarge CA are presented separately in tables to permit an assessment of a U.S. industry that is defined to exclude the operations of Lafarge CA as a related party.

U.S. Producers’ Capacity, Capacity Utilization, Production, and Shipments of Ordinary CA Cement Products

Tables 7 and 8 present data on the capacity to produce\(^\text{61}\) and actual production of subject products (plus CA flux). Detailed data on shipments are also provided.

Table 7
Ordinary CA cement: U.S. capacity, production, capacity utilization, and shipments of U.S. producers, by firms, 1990-93

---

\(^\text{61}\) Practical capacity was defined as the greatest level of output a plant can achieve within the framework of a realistic work pattern. Producers were asked to consider, among other factors, a normal product mix and an expansion of operations that could be reasonably attained in their industry and locally in setting capacity in terms of the number of shifts and hours of plant operations.
Table 8  
Ordinary CAC clinker and CA flux: U.S. capacity, production, capacity utilization, and shipments of U.S. producers, by products and by firms, 1990-93

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacity (short tons)</th>
<th>Production (short tons)</th>
<th>Capacity Utilization (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-93</td>
<td>75,000</td>
<td>70,000</td>
<td>94</td>
</tr>
<tr>
<td>1991-93</td>
<td>72,000</td>
<td>68,000</td>
<td>94</td>
</tr>
<tr>
<td>1992-93</td>
<td>70,000</td>
<td>66,000</td>
<td>94</td>
</tr>
<tr>
<td>1993-93</td>
<td>68,000</td>
<td>64,000</td>
<td>94</td>
</tr>
</tbody>
</table>

Capacity and Capacity Utilization

Lehigh's capacity to produce subject products (plus CA flux) remained constant during the last four years. The firm has 75,000 capacity in place to grind cement (short tons, as reported in table 7) than it does to produce the clinker input (short tons, as reported in table 8). (Capacity utilization at both production stages, however, is low and reflects the decrease in production by the firm. Lehigh's capacity utilization for grinding ordinary CA cement declined from *** percent in 1990 to *** percent in 1993 (table 7); ordinary CA clinker capacity utilization declined from *** percent in 1990 to *** percent in 1993 (table 8).  

In its response to the Commission's producers' questionnaire, Lafarge CA did not provide data identifying any capacity to produce ordinary CAC clinker. (As stated earlier, all of the ordinary CA cement produced by Lehigh CA is ground from imported clinker.) However, the firm currently produces white CAC clinker using a kiln in which it argues the ordinary grade could be produced. The kiln has a capacity of *** short tons. *** of its capacity is currently devoted to the production of the white, high-purity product. Utilization of Lafarge CA's capacity to grind ordinary CA clinker was somewhat *** than that reported by Lehigh, averaging about *** percent during 1990-93 (table 7).

Production and Shipments of Ordinary CA Cement

As shown in table 7, Lehigh's production of ordinary CA cement decreased *** from 1990 to 1993, declining by *** short tons or by *** percent. The quantity of domestic shipments of ordinary CA cement by Lehigh decreased *** by *** percent from 1990 to 1993, although the trend changed for 1993 with a ***

percent annual increase. Export shipments decreased *** by *** percent during the same period. In contrast, Lafarge CA shipped more cement than it ground from imported clinker to U.S. customers in 1993 than it did in 1990. However, Lafarge CA reported a net decrease in such shipments from 1992 to 1993 and reported an overall decrease in exports during the last four years. The unit value of domestic shipments by *** *** from 1990 to 1993.

Lafarge produces two brands of ordinary CA cement (Lumnite and Refcon) and Lehigh CA produces four (Secar 41, Secar 51, Fondu, and Fondu XR). Lafarge CA also produces Fondag, a premixed concrete which is a blend consisting of ***. Shipments of ordinary CA cement, by brand, are presented in table D-3 in appendix D of this report. Petitioner reports that Lumnite (with an average unit value of $** per short ton in 1993) competes most directly with Fondu (with a 1993 average unit value of $***), Fondu XR (with a 1993 average unit value of $**), and Secar 41 (with a 1993 average unit value of $***). Refcon (with an average unit value of $** per short ton in 1993) competes most directly with Secar 51 (with a 1993 average unit value of $**). Fondag does not compete directly with any CA cement products offered by sale by Lehigh.

As shown in table D-3, the overall decline in sales by Lehigh is primarily due to ***. ***

Production and Shipments of Ordinary CAC Clinker

Trends for the production and use of ordinary CAC clinker by Lehigh mirrored those for the finished product. (Lehigh does not sell CAC clinker to other firms, but uses all of the product in its internal production of ordinary CA cement.) Production declined by *** percent during the 1990-93 period; U.S. shipments declined by *** percent during the period. ***

---

64 The combination of a decrease in 1993 production and a (*** increase in total shipments is paired with a decline in 1993 year-end inventories. Data on inventories are presented in the section of this report entitled "U.S. Producers' Inventories of Ordinary CA Cement Products.

65 However, petitioner further comments that "the two closest product matches in terms of chemical composition, physical characteristics, and end use are (1) Lafarge's Secar 41 vs. Lehigh's Lumnite and (2) Lafarge's Secar 51 vs. Lehigh's Refcon." Hearing transcript, p. 54, and petitioner's posthearing brief, p. 5.

66 In its questionnaire response, Lafarge CA discusses product competition separately by market. ***

67 Respondent agrees that the two generally compete, but adds that Secar 51 (BTF) has an advantage where its shorter setting time and earlier compressive strength is important.

68 However, petitioner states that ***.


70 Petitioner argues that "the most telling evidence of underselling at the level of actual competition" is a direct comparison of Lehigh's production cost for ordinary CA clinker in the United States and Lafarge CA's acquisition.
U.S. Producers’ Inventories of Ordinary CA Cement Products

U.S. producers’ inventories of ordinary CA cement products are presented in table 9.

Table 9
Ordinary CA cement, ordinary CAC clinker, and CA flux: End-of-period Inventories of U.S. producers, by products and by firms, 1990-93

The quantity of end-of-period inventories of ordinary CA cement held by Lehigh was somewhat lower at yearend 1993 compared to the quantity held during previous years. However, the firm maintained approximately the same amount of inventories if examined as a share of total production. Lehigh’s inventories.

U.S. Producers’ Employment for Ordinary CA Cement Products

The number of production and related workers (PRWs) and hours worked by such workers at Lehigh producing ordinary CA cement and CAC clinker decreased by percent and percent, respectively, from 1990 to 1993 (table 10).

Table 10
Average number of production and related workers producing ordinary CA cement, ordinary CAC clinker, and CA flux, hours worked, wages and total compensation paid to such employees, and hourly wages, productivity, and unit labor costs, by products and by firms, 1990-93

Financial Experience of U.S. Producers

Two firms—Lehigh and Lafarge CA—accounting for virtually all U.S. production of ordinary CA cement and ordinary CAC clinker, supplied income-and-loss data on their operations on these products. Lehigh, the only domestic producer of CA flux, also provided income-and-loss data on its operations on CA flux. Lafarge and Alcoa, accounting for U.S. production of white CA cement and white CAC clinker, supplied income-and-loss data on their operations on these products. Lehigh produced ordinary CAC clinker for internal use in the production of ordinary CA cement, whereas Lafarge CA imported ordinary CAC clinker from France and ground it to make ordinary CA cement during the period for which data were collected in the investigation.

Data for Lehigh and Lafarge CA on their operations on ordinary CA cement and ordinary CAC clinker are presented separately as well as combined in this section of the report. Aggregate data on operations on (1) CA flux, (2) white CA cement and white CAC clinker, (3) combined data on ordinary CA cement and ordinary CAC clinker plus CA flux, and (4) combined data on ordinary CA cement and ordinary CAC clinker plus white CA cement and white CAC clinker are presented in appendix E.

Operations on Ordinary CA Cement and Ordinary CAC Clinker

Lehigh Portland Cement Co.

Income-and-loss data for Lehigh are shown in table 11. Lehigh had no trade sales of ordinary CAC clinker and no company transfers of either ordinary CA cement or ordinary CAC clinker. Ordinary CA cement net sales accounted for an average of percent of the total net sales of Lehigh’s overall establishment operations during 1990-92, and percent in 1993. Lehigh earned.

Lehigh's net sales of ordinary CA cement declined by *** percent from $*** in 1990 to $*** in 1992, and then rose by *** percent in 1993. Total net sales in short tons showed a similar trend, dropping by *** percent from 1990 to 1992 and then increasing by *** percent in 1993.

Lehigh earned a gross profit of $***, or *** percent of net sales, in 1991 compared with $***, or *** percent of net sales, in 1990 as ***. The gross profit *** to $***, or *** percent of net sales, in 1992 and to $***, or *** percent of net sales, in 1993. Lehigh reported ***.

Data of Lehigh's Buffington Station plant were verified by the Commission. There were *** in data reported. Key data were reconciled with the audited financial statements of Lehigh for all the periods covered under ***. net sales of the Buffington Station establishment operations accounted for *** percent of the company's total net sales.

Income-and-loss data on a per-short-ton basis are also shown in table 11. Lehigh sells only two brands, Luminit and Refcox, in the domestic market. ***.

The average per-short-ton sales value of ordinary CA cement *** by about *** percent from 1990 to 1991, *** at about $*** in 1992, and then *** to $*** in 1993. The average cost of goods sold *** than the average net sales value, *** by *** percent from 1990 to 1993. This resulted in a *** in gross profit per short ton of *** percent from 1990 to 1993. Average selling, general, and administrative expenses per short ton *** during 1990-93. During the same period, ***.

Lehigh utilizes the same equipment and machinery to manufacture both ordinary CAC clinker and CA flux. The grinding facilities are used only to produce ordinary CA cement from ordinary CAC clinker. Another product produced in the same establishment is ***. Hence, key total establishment income-and-loss data are presented in the following tabulation:

<table>
<thead>
<tr>
<th>Table 11</th>
<th>Income-and-loss experience of Lehigh on its operations producing ordinary CA cement and CAC clinker, calendar years 1990-93</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>* * * * * * *</td>
</tr>
</tbody>
</table>

The Commission requested variable and fixed costs per ton of ordinary CA cement and ordinary CAC clinker, and also production or purchasing costs of ordinary CAC clinker and the costs of grinding ordinary CAC clinker into ordinary CA cement. These data for Lehigh are presented in the following tabulation (per ton):

<table>
<thead>
<tr>
<th>Table 12</th>
<th>Ordinary CA cement and ordinary CAC clinker: Value added by Lehigh to material costs, with and without selling, general, and administrative expenses, calendar years 1990-93</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>* * * * * * *</td>
</tr>
</tbody>
</table>

Lafarge CA

Income-and-loss data for Lafarge CA are shown in table 13.

<table>
<thead>
<tr>
<th>Table 13</th>
<th>Income-and-loss experience of Lafarge CA on operations producing ordinary CA cement and CAC clinker, calendar years 1990-93</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>* * * * * * *</td>
</tr>
</tbody>
</table>

There were no trade sales or company transfers of ordinary CAC clinker during the periods examined. Net sales of ordinary CA cement accounted for an average of *** percent of total net sales of Lafarge CA's overall U.S. establishment operations during the period covered by the investigation. ***.

Income-and-loss data on a per-short-ton basis are also shown in table 13. Lafarge CA sells five major brands of ordinary CA cement—Fondu, Fondu XR, Secar 51, Secar 41, and Fondag—in the domestic market. ***.

The value added, with and without SG&A expenses, to material costs are presented in table 14.

<table>
<thead>
<tr>
<th>Table 14</th>
<th>Ordinary CA cement and ordinary CAC clinker: Value added by Lafarge CA to material costs, with and without selling, general, and administrative expenses, calendar years 1990-93</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>* * * * * * *</td>
</tr>
</tbody>
</table>

The presented major components of cost of goods sold for Lehigh and Lafarge CA are not comparable
because Lehigh is an integrated producer of ordinary CA cement whereas Lafarge CA is a grinder of ordinary CAC clinker. Hence, such data of both firms combined are not shown in the section below entitled "Lehigh and Lafarge CA combined."

The Commission requested variable and fixed costs per ton of ordinary CA cement and ordinary CAC clinker, and also production or purchasing costs of ordinary CAC clinker and costs of grinding ordinary CAC clinker into ordinary CA cement. Lafarge CA did not produce but imported ordinary CAC clinker. These data of Lafarge CA are presented in the following tabulation (per ton):

* * * * * * *

**Lehigh and Lafarge CA combined**

Income-and-loss data for both firms combined are shown in table 15.

**Table 15**
Income-and-loss experience of Lehigh and Lafarge CA combined on their operations producing ordinary CA cement, calendar years 1990-93

* * * * * * *

* * * * * * *

There were no trade sales or company transfer of ordinary CAC clinker during the period for which data were collected in the investigation. Net sales value of ordinary CA cement *** by *** percent from $*** in 1990 to $*** in 1991, but then *** by *** percent to $*** in 1993. Total net sales in short tons *** by *** percent from 1990 to 1991 and then *** by *** percent in 1993.

* * * * * * *

**Investment in Productive Facilities**

Investment in property, plant, and equipment and return on investment, by firm, are shown in table 16. The operating return and net return on assets followed the same trend as did the ratio of operating and net income to net sales for each firm and combined during the reporting periods.

**Table 16**
Ordinary CA cement and ordinary CAC clinker: Value of assets and return on assets, by firms, calendar years 1990-93

* * * * * * *

**Capital Expenditures**

The capital expenditures for ordinary CA cement and ordinary CAC clinker incurred by each firm are shown in the following tabulation (in thousands of dollars):

* * * * * * *

**Research and Development Expenses for Market Development and Technical Assistance**

Lafarge CA reported expenses incurred in its "Technical Assistance Department" as the research and development expenses. The major categories of these expenses are presented in the following tabulation (in thousands of dollars):

* * * * * * *

The company stated that about *** percent of these expenses were incurred for assisting in the use of its products in the various end products of its customers and about *** percent have been to develop new downstream products.

In the original questionnaire response, Lehigh reported that its accounting records do not capture research and development expenditures, if any, for its establishment during 1990-92 and estimated that its "Lehigh Research Center," which was started in 1993, incurred $*** in research and development expenses relating to ordinary CA cement in 1993. However, after the Commission's hearing, Lehigh provided marketing and technical support expenses incurred in its establishment and stated that *** were related to ordinary CA cement and ordinary CAC clinker. Such expenses are shown in the following tabulation (in thousands of dollars):

* * * * * * *

Lehigh stated that ***.

During the 1990-93 period, Lafarge CA allocated $*** for market development and technical assistance and Lehigh reported $*** in such expenses.

**Capital and Investment**

The Commission requested U.S. producers to describe any actual or potential negative effects of imports of ordinary CA cement, ordinary CAC clinker, and/or CA flux from France on their firm's growth, investment, ability to raise capital, or existing development and production efforts (including efforts to develop a derivative or more advanced version of these products). The producers' responses are presented in appendix F.
Consideration of the Question of Threat of Material Injury

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 merchandise, the Commission shall consider, among other relevant economic factors—

(I) If a subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the subsidy is an export subsidy inconsistent with the Agreement),

(II) any increase in production capacity or existing unused capacity in the exporting country likely to result in a significant increase in imports of the merchandise to the United States,

(III) any rapid increase in United States market penetration and the likelihood that the penetration will increase to an injurious level,

(IV) the probability that imports of the merchandise will enter the United States at prices that will have a depressing or suppressing effect on domestic prices of the merchandise,

(V) any substantial increase in inventories of the merchandise in the United States,

(VI) the presence of underutilized capacity for producing the merchandise in the exporting country,

(VII) any other demonstrable adverse trends that indicate the probability that the importation (or sale for importation) of the merchandise (whether or not it is actually being imported at the time) will be the cause of actual injury,

(VIII) the potential for product-shifting if production facilities owned or controlled by the foreign manufacturers, which can be used to produce products subject to investigation(s) under section 701 or 731 or to final orders under section 706 or 736, are also used to produce the merchandise under investigation,

(IX) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both), and

(X) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the like product.

Subsidies (item (I)) and agricultural products (item (IX)) are not issues in this investigation; information on the volume, U.S. market penetration, and pricing of imports of the subject merchandise (items (III) and (IV) above) is presented in the section entitled “Consideration of the Causal Relationship between Imports of the Subject Merchandise and the Alleged Material Injury;” and information on the effects of imports of the subject merchandise on U.S. producers’ existing development and production efforts (item (X)) is presented in the section entitled “Consideration of the Question of Material Injury to an Industry in the United States.” Available information on U.S. inventories of the subject products (item (V)), foreign producers’ operations, including the potential for “product-shifting” (items (II), (VI), and (VIII) above); any other threat indicators, if applicable (item (VII) above); and any dumping in third-country markets, follows.

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

II-15
Ability of Foreign Producers to Generate Exports of Subject Products and the Availability of Export Markets Other Than the United States

The Industry in France

According to petitioner and counsel for Lafarge CA and Lafarge Fondu, Lafarge Fondu is the only producer of ordinary CA cement and ordinary CAC clinker in France.⁷⁶ Lafarge Fondu manufactures the subject product at its Dunkerque and Fos plants. (***.) Counsel for Lafarge Fondu submitted data on its client’s manufacturing operations in France.⁷⁷

Ordinary CA cement manufacturing operations

The data provided show that Lafarge Fondu’s utilization of its capacity to produce ordinary CA cement *** (table 17). ***. (As shown by a comparison of tables 17 and 18, until ***, ***.) ***.

Table 17
Ordinary CA cement: French capacity, production, inventories, capacity utilization, and shipments, 1990-93 and projected 1994-95

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacity</th>
<th>Production</th>
<th>Inventory</th>
<th>Utilization</th>
<th>Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>10,000</td>
<td>8,000</td>
<td>2,000</td>
<td>80%</td>
<td>7,000</td>
</tr>
<tr>
<td>1991</td>
<td>10,500</td>
<td>8,500</td>
<td>2,500</td>
<td>80%</td>
<td>7,500</td>
</tr>
<tr>
<td>1992</td>
<td>11,000</td>
<td>9,000</td>
<td>3,000</td>
<td>80%</td>
<td>8,000</td>
</tr>
<tr>
<td>1993</td>
<td>11,500</td>
<td>9,500</td>
<td>3,500</td>
<td>80%</td>
<td>8,500</td>
</tr>
<tr>
<td>Projected</td>
<td>12,000</td>
<td>10,000</td>
<td>4,000</td>
<td>80%</td>
<td>9,000</td>
</tr>
</tbody>
</table>

The majority of Lafarge Fondu’s total shipments of ordinary CA cement were ***. No finished ordinary CA cement is exported to the United States.

Ordinary CAC clinker manufacturing operations

Data on the manufacture of ordinary CAC clinker by Lafarge Fondu are presented in table 18. Because of the greater capital investment required for clinker operations, Lafarge Fondu’s reported capacity to produce cement in clinker form may be a better measure of overall production capability than its capacity to grind the product. Capacity to produce clinker products (including CA flux) ***.

Table 18
Ordinary CAC clinker: French capacity, production, inventories, capacity utilization, and shipments, 1990-93 and projected 1994-95

<table>
<thead>
<tr>
<th>Year</th>
<th>Capacity</th>
<th>Production</th>
<th>Inventory</th>
<th>Utilization</th>
<th>Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>5,000</td>
<td>4,000</td>
<td>1,000</td>
<td>80%</td>
<td>4,000</td>
</tr>
<tr>
<td>1991</td>
<td>5,500</td>
<td>5,000</td>
<td>1,500</td>
<td>80%</td>
<td>4,500</td>
</tr>
<tr>
<td>1992</td>
<td>6,000</td>
<td>5,500</td>
<td>2,000</td>
<td>80%</td>
<td>5,000</td>
</tr>
<tr>
<td>1993</td>
<td>6,500</td>
<td>6,000</td>
<td>2,500</td>
<td>80%</td>
<td>5,500</td>
</tr>
<tr>
<td>Projected</td>
<td>7,000</td>
<td>6,500</td>
<td>3,000</td>
<td>80%</td>
<td>6,000</td>
</tr>
</tbody>
</table>

*** of the clinker produced by Lafarge Fondu is used by that firm to produce finished cement; approximately *** of its production is exported in clinker form *** to Lafarge CA in the United States. Exports of ordinary CAC clinker to the United States are expected to *** by *** percent in 1994, then *** by *** percent in 1995. Lafarge CA reports that *** in the amounts of exports are largely due to ***. ⁸⁰ ⁸¹ ***. As shown in the following tabulation, exports of ordinary CAC clinker by Lafarge Fondu to the United States *** yearly production of the finished cement by Lafarge CA. The following data are presented in short tons:

As shown, annual production and domestic shipments of the finished product by Lafarge CA in the United States are *** than exports of the clinker input and end-of-period inventories of clinker, which show *** and whose trends are, thus, ***. Lafarge CA estimates that it will produce *** short tons of ordinary CA cement in 1994 and *** short tons in 1995.⁸²


⁷⁷ Respondent states that “Lafarge’s capacity utilization ***.” Posthearing brief, p. 13. ⁸⁰ ⁸¹ ***. Respondent argues that “in assessing import trends, the Commission should consider the January 1994 entry to have been entered in late 1993.” Posthearing brief, p. 3. Respondent comments that clinker shipped in 1994 has no effect on the amount of 1993 shipments of finished cement. Posthearing brief, p. 8, n. 8.

⁸¹ Lafarge CA listed the quantity and value of each shipment of ordinary CAC clinker arriving in the United States from 1990 to date in exhibit E of its posthearing brief.

⁸² The 1994 and 1995 projections total to *** short tons, an amount of finished cement which is *** than the *** short tons of clinker that Lafarge CA projects it will ship into the United States during that period. (Normally Lafarge CA produces *** than one short ton of cement for every short ton of input clinker; the difference is due to ***.) Although it is difficult to meaningfully discuss averages over a period of time as short as 2 years, Lafarge CA indicates that there will be an *** in imports of ordinary CAC clinker in 1994 and 1995 compared with 1993. Due to *** it is planning to ***, which may enable the firm to *** in the future. Staff conversations with counsel for Lafarge CA, Feb. 15, 1994, and Mar. 10, 1994.

⁷⁷ This information was confirmed by the U.S. Embassy in Paris (U.S. Department of State, telegram No. 10166, Apr. 1993).

⁷⁸ Sales of CA cement products (including CA flux) represented *** percent of Lafarge Fondu’s total sales in its most recent fiscal year.
The World Market

*** and *** report no new world markets for CA cement products; in contrast, *** indicates that there is growing demand. (Table 17 shows ***.) There are apparently few new producers of the product. China has begun producing ordinary CA cement, as did a South African company in 1990.

CA cement from France was the subject of a 1988 Korean antidumping investigation. ***.

U.S. Importers’ Inventories of Ordinary CA Cement

As stated above, Lafarge CA was the only importer of CA cement clinker from France during the period of investigation. The following tabulation presents data on Lafarge CA’s end-of-period inventories of product imported from France:

* * * * * * *

Consideration of the Causal Relationship Between Imports of the Subject Merchandise and the Alleged Material Injury

U.S. Imports of Ordinary CA Cement Products

Data on U.S. imports are shown in table 19.

Table 19
Ordinary CA cement and ordinary CAC clinker: U.S. imports, by products and by sources, 1990-93

* * * * * * *

Almost no ordinary CA cement product enters the United States in finished form. *** Instead, the product is imported as clinker *** by Lafarge CA, which grinds it into the finished product. As shown in table 19, the quantity of Lafarge CA’s imports of subject clinker have declined *** during the last 2 years.

U.S. Market Shares of Ordinary CA Cement Products

Shares for the Overall U.S. Market

Data on penetration by imports of the U.S. markets for ordinary CA cement products are shown in table 20. Trends for finished cement company-specific market shares are *** as the trends of imported ordinary CAC clinker entering the United States. Specifically, Lafarge’s share of the U.S. market increased by *** percentage points from 1990 to 1992, then declined by *** percentage points in 1993. However, as with imports of the input clinker, Lafarge CA commands a larger share of the U.S. market for ordinary CA cement in 1993 (*** percent) than it did in 1990 (*** percent).

Table 20
Ordinary CA cement and ordinary CAC clinker: Market shares of U.S. shipments of domestic product and U.S. shipments of imports, by products and by sources, 1990-93

* * * * * * *

Shares for the Refractory and Non-Refractory Market Segments

The respondent contends that the Commission should examine market penetration separately by market segment. Specifically, Lafarge CA testified at the conference held during the Commission’s preliminary investigation that the U.S. cement industry should be grouped into two broad categories: (1) the traditional refractories market and, (2) the other markets for specialty building products, which include new markets where ordinary CA cement is used as a chemical ingredient in combination with other materials to produce material for the construction industry. ***

84 The imported ordinary CA cement shown in table 19 was imported from *** by **. A representative of *** stated that the firm is “not really in the market since it is too price competitive.” Telephone conversation with ***.
85 Because there are *** made by only one importer, it is difficult to evaluate trends for the imports of the subject product in clinker form for relatively short time periods. The problems with doing so were addressed earlier when discussing Lafarge Fondu’s exports to the United States.
86 Conference transcript, p. 83, and respondent’s postconference brief, pp. 32-36. The Commission stated in its opinion for the preliminary investigation that it would seek consumption information which provides a breakdown by enduse. USITC, Certain Calcium Aluminate Cement and Cement Clinker from France, USITC publication No. 2837, May 1993, p. 22.
The following tabulation (which is drawn from data presented in tables D-1 and D-2 in appendix D) presents the quantity of apparent consumption in both the refractory and the non-refractory market segments (in short tons): 87

As shown, total consumption in the refractory market declined from 1990 to 1993 (by *** percent), while consumption increased (by *** percent) for non-refractory applications. Lafarge CA characterizes the refractory market as a relatively mature one which has been experiencing a decrease in demand due to the recession in the steel industry. Purchasers (in telephone conversation with staff) state that the refractories industry is now emerging from the recession. The market for non-refractory applications is tied into the emerging specialty building products industry. It is in this market that "new" applications for CA cement are found; this phenomenon is discussed in greater detail below. *** of Lehigh's shipments are into the refractory market (table D-1); *** of shipments by Lafarge CA are to the non-refractory segment (table D-2). However, while the two firms dominate different market segments, one of which (refractory applications) shows decreasing consumption while the other (non-refractory applications) shows increasing demand, the market penetration trends of Lehigh and Lafarge ***. That is, the trend of the share of the quantity of U.S. consumption accounted for by each market participant is ***. As shown in table D-1, Lafarge CA's share of the refractory market ***. Lehigh's shipments were necessarily a converse to those of Lafarge CA, *** (table D-2).

The following tabulation shows the share of U.S. shipments of each brand that is sold into the two market segments (in percent of quantity):

Although the relative portions differ somewhat (especially for ***), all types of cement (with the exception of ***) have been sold into both market segments. (As shown in table D-3, *** comprise a relatively small share of total shipments.) Comments by Lehigh and Lafarge CA regarding competition among brands were included in the section of this report entitled "Production and Shipments of Ordinary CA Cement."

Shares for the "Existing" and "New" Applications

Data reported for "existing" and "new" applications

Table D-4 presents a further analysis of shipment data by market segment; in that table, data are presented separately for "existing" and "new" applications within the refractory and non-refractory markets. 88 As shown, suppliers of ordinary CA cement indicate that there are *** "new" applications for refractories. *** "new" applications are for building products (labeled here as "non-refractory" applications). Both Lehigh and Lafarge CA report such shipments, *** percent of all U.S. shipments by Lehigh during the 4-year period examined were for "new" applications, as were *** percent of all U.S. shipments by Lafarge CA. Shipments were categorized as "new" applications according to a definition developed by Commission staff. (This definition is further discussed below.) The definition was constructed so that data reported, in theory, can be examined for trends. 89 However, many of the customers purchasing ordinary CA cement for "new" applications are doing so on a one-time basis (e.g., to repair floors) and do not continue to purchase the product annually. 90

The data presented in table D-4 in this final staff report differ from those included in the prehearing staff report and, consequently, from those discussed in briefs submitted by the parties and at the Commission's hearing. Lehigh first provided data as part of its March 25, 1994 posthearing brief for the portion of its shipments that meets the staff definition of "new" applications. 91 Lafarge CA submitted several revisions to the data included in its original questionnaire response. As shown by a comparison of table D-4 in this report and the corresponding table in the prehearing report (table C-4), Lafarge CA's revisions

87 ***.

88 During the Commission's preliminary investigation, respondent alleged that its increase in market share was largely due to new markets which it created for CA cement rather than to competition with petitioner in petitioner's markets. The Commission stated in its determination that there was insufficient evidence on the record in its preliminary investigation to support this allegation and that it would gather additional data on the question in any final investigation. USITC, Certain Calcium Aluminate Cement and Cement Clinker from France, USITC publication No. 2637, May 1993, p. 28. Respondent reported that its growth in sales was due to its technical innovations and other support provided to customers. Respondent's postconference brief, p. 36.

89 Specifically, respondents were instructed to continue to list U.S. shipments made after the moment in which the new application was first reported in the "new" category.

90 As shown in table D-4, the trends of "new" application shipments are irregular for both U.S. suppliers. Lehigh reported the largest amount (*** short tons) of shipments for "new" applications in ***. In contrast, the amount of product shipped by Lafarge CA in 1993 (*** short tons) represents a decrease of *** percent from that shipped in 1992.

91 Lehigh stated at the Commission's hearing that "While we take issue with the definition of new applications in the questionnaire, we have revised our response to comply with that definition." Transcript, p. 52.
somewhat *** the amount of shipments it labelled as “new,” especially in 1993. Notwithstanding the above qualification that trends for “new” applications may not be meaningful, it should be pointed out that the revised data show a *** increase in such shipments by Lafarge CA over the 4-year period examined. As shown in table D-4, Lafarge CA’s “new” applications shipments increased by *** short tons or by *** percent from 1990 to 1993, an increase of *** than the *** increase shown in table C-4 of the prehearing report. In addition to the increase in its shipments for “new” applications, Lafarge CA also reported shipping *** more short tons of ordinary CA cement for existing non-refractory applications in 1993 than in 1990 (a rise of *** percent). By way of comparison, Lafarge CA’s U.S. shipments to all market segments increased by *** short tons (table 7). Lafarge CA’s growth within the non-refractory or construction market segment was ***.

As shown in table D-4, the unit value of ordinary CA cement shipped by Lafarge CA for use in “new” applications is *** than the unit value of product shipped for use in “existing” applications (including those within the non-refractory market). ***.

Description of “new” applications

Lehigh and Lafarge CA reported that their customers used a variety of products before turning to ordinary CA cement. Most of the ordinary CA cement used in “new” applications replaced portland cement or refractory brick or was used in entirely new products. Customers switched to the subject product from refractory brick in order to, among other items, ***. For portland cement, floor repair was the application most frequently cited.92 (However, the single largest switch (from portland cement to Lafarge CA’s ordinary CA cement) was by *** for its ***). New products in which ordinary CA cement was first used included ***. Other products replaced by ordinary CA cement included ***.93 As discussed earlier in this report, Lehigh does not offer a product that directly competes for sale with Fondag.

92 The use of ordinary CA cement to repair floors (often portland cement floors in industrial settings) is a major “new” application cited by Lafarge CA. Prior to using ordinary CA cement, floors could have been repaired with portland cement or refractory brick or, in some instances, with an epoxy. In some instances for which Lafarge CA provided data, the floor was being repaired for the first time or was a totally new floor. Lafarge CA presents the issue of whether or not to use portland or CA cement in the context of choice. A company representative stated that while there are significant differences in the price of, for example, portland cement and ordinary CA cement, a firm might choose to use the subject product because of its much faster setting time and the consequently shorter time needed to shutdown production. Staff conversation with ***. Lafarge CA, Apr. 6, 1994.

Methodology used to classify applications as “new”

A definition of “new” applications was developed by Commission staff as part of the questionnaire. The Commission issued; such definition formed the parameter for whether shipments could be classified as “new.”93 In its questionnaire response, Lehigh stated that “the distinction between ‘existing’ and ‘new’ applications, as ‘new’ applications are broadly defined in the questionnaire, has no relevance in assessing whether imports have adversely affected Lehigh’s market share, output, and price.” Lehigh also addressed this issue extensively in its briefs and at the Commission's hearing, arguing that only applications new to the marketplace would increase overall demand for ordinary CA cement.94 Staff did not attempt to use a definition following Lehigh’s concept. Rather it followed a line of reasoning with which, based upon their testimony during the Commission’s hearing, respondents appear to concur.95 It is difficult to discuss this product and this market using broad

93 The instructions in the questionnaire were as follows: “New applications” are defined as product being used for the first time in a manner which is “new” to THAT customer. To be classified as “new,” shipments to the customer for that application must have begun on or after January 1, 1990. (Continue to list U.S. shipments made after the time period in which the new application was first reported in the “new” category.) To categorize U.S. shipments as “new,” it is NOT necessary that the customer receiving them be a “new” customer—in other words, the customer may be an existing one who has been previously purchasing product for use in traditional applications. Also, to categorize the U.S. shipment as "new," it is NOT necessary that no other firm ever purchased the product for that particular application (either BEFORE or after 1990). It is only necessary that the application be "new" since January 1, 1990 to THAT customer. The only exception to the above instructions are end-users who were not in business prior to 1990 who purchase product for otherwise traditional uses. Although they are technically using the product for an application which is "new" to them, their purchases should be reported in the "existing" application category. "Existing" applications are shipments for all uses other than "new" applications.

94 Prehearing brief, p. 38. The staff prehearing report (pp. 75-76) stated that while many of Lehigh’s points are, in theory, valid, they are not necessarily relevant to this industry. Staff conducted further discussions with Lehigh on this issue (Apr. 4, 1994) and does not herein revise the assessment presented in its prehearing report as a result of these discussions. Further, although the definition was not specifically structured to do so, staff assessment is that employing it would, in most instances, measure situations actually resulting in an overall increase in sales of ordinary CA cement in the U.S. market.

95 Specifically, Mr. Finlayson, counsel for Lafarge, stated that “Lehigh’s comments on this issue, it seems to me that they miss a basic point, and that is that CA cement is not easy to use. A customer needs to learn how to use it, needs to develop tailored formulas. So the fact that some other country elsewhere in the country may have used CA cement for a similar purpose does not help that new customer figure out how to do so itself.” Hearing transcript, p. 182.
concepts of demand. What appears to be clear from the record is that there are not new ordinary CA cement products which, once introduced, stimulate and expand overall demand. Rather there are a series of new applications where each specific use is somewhat idiosyncratic, the product of sometimes intensive development effort on the part of the user and technical assistance on the part of the supplier. The staff definition was designed to measure a shift by a user to ordinary CA cement from a substitute non-ordinary CA cement product (or, alternatively, the development of a completely new end-use product).

Verification of data submitted on “new” applications

In order to verify the accuracy of their responses, all firms responding to Commission questionnaires were requested to provide the following information for each shipment recorded as a “new” application in 1992:

- customer name, contact person, and telephone number; quantity of U.S. shipments to customer for the “new application” in 1992;
- description of the new application; and product which was used before ordinary CA cement.

Table 21 presents information obtained from a selected number of customers alleged to have purchased ordinary CA cement for use in “new” applications by Lafarge CA. As shown, staff determined in some instances that the application cited by Lafarge CA either did not fulfill the staff definition or, perhaps, the intent of that definition. However, such discrepancies do not appear to be because of any misreporting or misrepresentation by Lafarge CA. In some cases (e.g., [***]), the application was new to the customer, but not new to the end user, or “new” only because it had never before been necessary to do the application (i.e., repair the floor as in the case of [***]). In other instances (e.g., [***, ***]), the application may have only been done once and staff was not confident that the firm was not simply forgetting they purchased and used it. In other examples (e.g., [***, ***]), staff did not label the application as “new” because the application was apparently developed by that firm before 1990. A review of the footnotes in table 21 provides an indication of the complexity of this issue. In general, firms with which Commission staff spoke often cited Lafarge CA’s technical support (e.g., [***, ***]) to [***, ***]). This statement should, however, be placed in the context that the review was of Lafarge CA’s customers, not of firms that are presumably satisfied with and buy from Lehigh. More complete information on the extent to which suppliers provided technical support (and its importance relative to price) was derived from a survey of a larger number of purchasers and is discussed in the section of this report entitled “Pricing and Marketing Considerations.”

Table 21
Survey of U.S. shipments to customers for “new” applications claimed by Lafarge CA

<table>
<thead>
<tr>
<th>Customer Name</th>
<th>Contact Person</th>
<th>Telephone Number</th>
<th>Quantity of U.S. Shipments</th>
<th>Description of New Application</th>
<th>Product Used Before Ordinary CA Cement</th>
</tr>
</thead>
<tbody>
<tr>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
<td>...</td>
</tr>
</tbody>
</table>

Pricing and Marketing Considerations

As discussed earlier, the market for CA cement consists primarily of two largely distinct sectors: manufacturers of products for the construction industry and manufacturers of refractories. Firms within both of these industry groups use ordinary CA cement. White CA cement is used more often by manufacturers of refractories than by firms in the non-refractories sector. CA flux, by itself or in a blended form, is used almost entirely by the steel industry.

Factors affecting the demand for the various types of CA cement and CA flux include macroeconomic conditions and specific changes in the demand for the various types of end products that contain CA cement and CA flux. In addition, technological changes in the

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96 Fondag may be somewhat of an exception to this statement. *** of the sales of Fondag are claimed by respondents as for “new” applications.
97 Staff notes, however, that the sporadic nature of some of the “new” applications (e.g., floor repairs) may make the concept of “shifts,” like trends, somewhat problematic. A cement floor may last for decades before needing to be repaired or replaced.
98 Staff made no attempt to verify data for Lehigh since the issue was one raised by Lafarge CA.
99 Lehigh raised the point of not considering “previously-done-new-applications” referring to any previous use within the entire marketplace. Staff believed the point germane if the frame of reference was not to the marketplace, but rather to a specific end user (*** in the example of [***]). However, what is more problematic are instances where the application is “new” primarily because a repair (for example) had never before needed to be done (see the example for [***]).
100 Staff requested the names of the persons Lafarge CA actually dealt with and made every effort to contact those persons. However, this was not always possible due to their unavailability due to travel or retirement. Also, as emphasized above, many of these purchases do not represent an on-going commitment by the firm to use ordinary CA cement. They are, rather, a one-time use of the product by a firm which is not otherwise familiar with the product.
101 ***. Although it did not specifically do so, Lafarge CA might make the same request, namely, that the Commission consider the impact of applications developed prior to 1990 on 1990-93 shipment data.
102 A representative of one firm, [***], commented that both Lehigh and Lafarge CA attend industry meetings held by the International Packaged Concrete Manufacturers Association where they present papers on and otherwise encourage the development of new products using ordinary CA cement. (***.)
refractory sector and, in limited instances, the development of new non-refractories applications for different types of CA cement have affected overall demand for these products.

In the refractories sector, industry officials reported that recent research has focused on the development of products containing increasingly lower levels of CA cement. Much of the recent (as well as projected) growth in the refractories market has centered on these newer products. For the most part, these products require white rather than ordinary CA cement. This shift to low and ultra-low CA cement products has contributed, to some extent, to the decline in U.S. consumption of white CA cement and ordinary CA cement in the refractories sector, as shown in tables C-5b and D-1.

The development of some new uses for CA cement by firms manufacturing products other than refractories and, more importantly, the recent upturn in overall construction activity have at least partially offset the decline in consumption of ordinary CA cement for refractories. However, many of these firms use relatively small quantities of the various types and brands of the product for a limited range of applications. Their patterns of use and technical requirements differ somewhat from those of refractories manufacturers. These differences are discussed below.

The Commission sent questionnaires to 158 purchasers of CA cement and CA flux. Purchasers of CA cement that were surveyed include manufacturers of refractory products, construction firms, manufacturers of products such as gas fireplace logs and fireproof safes, and construction supply distributors. Purchasers of CA flux include companies that distribute some of the product directly and further process some of the product by grinding, sizing, and/or blending it with synthetic slags and other materials. These firms then sell the flux or flux products to steel manufacturers for use as a desulfurizing agent in the steel production process.

The Commission received 108 questionnaire responses. In quantity terms, the purchases of these firms accounted for approximately 70, 61, and 93 percent of the U.S. market for ordinary CA cement, white CA cement, and CA flux, respectively, in 1993. Information presented in the following sections is derived, in part, from the review of these responses. These sections discuss pricing and marketing trends in terms of overall U.S. demand for CA cement and CA flux, as well as by end-use groups, as appropriate.

Purchase Considerations

In interviews with staff and in response to the Commission’s questionnaire, the majority of purchasers identified quality as the most important factor influencing their purchasing decisions. Purchasers also reported that technical differences and performance were important considerations. Some firms reported relying on traditional suppliers of CA cement. The price or overall cost of the products was cited as the second or third most important consideration by most purchasers. Other factors frequently cited include availability and consistency.

Table 22 lists the factors influencing purchasing decisions identified by respondents to the purchaser questionnaire.

For the most part, purchasers indicated that their firms determine which type and brand of CA cement to use in a product during the process of product development and testing. Once the product is developed, changes in CA cement (either with respect to types or brands) require additional testing and frequently require some reformulation of the end product. Purchaser responses indicate that the time and cost associated with this process varies across industry sectors and the firms within these sectors. Purchasers reported that decisions to change types or brands of CA cement are generally made by assessing the requisite research and development costs associated with their product development, testing, and qualification processes versus the expected benefits (improved quality or end-product performance and lower production costs).

Purchasers were asked to discuss the extent to which ordinary CA cement and white CA cement could be substituted in their products. Virtually all of the firms that responded to this question reported that ordinary CA cement could not be used in applications typically formulated with white CA cement because of differences in composition and performance between the two types of CA cement. Although it is technically possible to substitute white CA cement for ordinary CA cement in some product formulations, questionnaire respondents generally indicated that the higher cost of white CA cement would preclude them from doing so.

The Commission asked purchasers various questions regarding the extent to which the various brands of Lehigh- and Lafarge CA-produced ordinary CA cement were interchangeable, based on their actual use of the product. Purchasers were asked whether or not these products could be used in the same range of uses and whether the various brands were interchangeable with each other in a given application. The firms were also asked whether there was a significant difference between the products purchased.

Within the construction (building chemistry) market, firms use CA cement for its heat-resistant qualities (flooring in certain types of production facilities) and its quick-setting and waterproofing attributes (flooring, grout, water sealants, airport runways, etc.).

In addition, a limited number of steel manufacturers purchase the product.

An additional 15 firms reported no purchases of the subject products during the period for which data were requested in the investigation.

In addition, purchasers cited factors such as range of product line and color.
Table 22
Factors affecting purchases of CA cement and CA flux, by types of purchaser, levels of importance, and frequency of responses

(In percent, except as noted)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Refractory</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Most important</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality</td>
<td>69</td>
<td>54</td>
</tr>
<tr>
<td>Technical differences/performance</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>Traditional supplier</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>Cost/price</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>No. of responses</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td><strong>Second-most important</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost/price(^1)</td>
<td>39</td>
<td>34</td>
</tr>
<tr>
<td>Quality</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Availability</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Consistency</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Technical assistance/service</td>
<td>6</td>
<td>17</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>No. of responses</td>
<td>36</td>
<td>41</td>
</tr>
<tr>
<td><strong>Third-most important</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Availability</td>
<td>40</td>
<td>35</td>
</tr>
<tr>
<td>Cost/price(^1)</td>
<td>37</td>
<td>46</td>
</tr>
<tr>
<td>Technical assistance/service</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>No. of responses</td>
<td>35</td>
<td>37</td>
</tr>
</tbody>
</table>

\(^1\) Includes factors such as credit terms.

Note.—Because of rounding, totals may not equal 100.


from the various suppliers of ordinary CA cement. Finally, the Commission requested purchasers to describe the costs and processes associated with changing from one type or brand of ordinary CA cement to another.

Approximately 38 percent of the firms in the non-refractories sector reported that the Lehigh and Lafarge CA products were employed in the same range of uses; however, only 26 percent reported that the products were interchangeable in a given application\(^{107}\). Approximately 40 percent of the firms indicated that they only had experience with one manufacturer and therefore could not determine whether there were significant differences in the products of the various CA cement suppliers; 26 percent reported that there were significant differences; and 34 percent reported no significant differences. When asked about the costs and processes associated with product substitution, approximately 78 percent of these purchasers indicated that either the products were not substitutable or that their firms have no experience with alternative brands of ordinary CA cement. Twenty-two percent reported that it is possible to substitute products, although a number of these firms qualified their responses to varying degrees.

\(^{107}\) Fourteen percent of the firms in the non-refractories sector indicated that the various products were not employed in the same range of uses. In addition, 24 percent of the non-refractories firms reported that the products were not interchangeable. The remaining firms in this sector indicated that this information was unknown or did not respond to the questions.
same range of uses, and 42 percent indicated that different brands were interchangeable in a given application.\textsuperscript{108} Approximately 50 percent of the firms in the refractories sector reported that there were significant differences in the products supplied by different CA cement suppliers; 33 percent reported no significant differences; and only 17 percent were unable to address this question.

When asked to describe the process of brand substitution, roughly 61 percent of the refractory manufacturers reported, to varying degrees, that some Lafarge and Lehigh brands were substitutable in some of their products, but generally not without testing and some reformulation.\textsuperscript{109} The requisite evaluation and changeover periods reported varied from 2 weeks to 1- to-2 years. These firms indicated that factors such as product consistency, the performance of their final products, requirements of their customers, and the overall delivered cost (including inventory management costs) determined whether such a substitution would be made.\textsuperscript{110}

The majority of both types of purchasers reported actually switching from one supplier to another infrequently, if at all. Overall, the firms reported four instances of shifting some or all of their purchases from Lehigh to Lafarge and eight instances of shifting some or all of their purchases from Lafarge to Lehigh. Two purchasers reported switching from Lehigh to Lafarge and then back to Lehigh. Purchasers generally indicated that these changes had been made because of quality or technical problems and cost.\textsuperscript{111 112}

**Comparison of Suppliers**

The majority of the firms in the non-refractories sector that responded to the Commission's questionnaire reported no difference between the French and U.S. producers' marketing efforts or did not provide a response.\textsuperscript{113} A larger percentage of the refractory producers were able to compare the marketing efforts of the cement manufacturers.

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\textsuperscript{108} Six percent reported that the products could not be employed in the same range of uses and 36 percent reported that the products were not interchangeable. Twenty-two percent were unable to respond to these questions.

\textsuperscript{109} Some of the firms indicated that substitution of ordinary cements was limited to specific brands (e.g., Secar 41 for Lummite, and Secar 51 for Refcon). In addition, 28 percent of the refractories manufacturer indicated that substitution was not possible.

\textsuperscript{110} The responses from refractories manufacturers differed considerably. For example, \textsuperscript{111} for example, \textsuperscript{112} Sixty purchasers reported no changes in suppliers during the 1991-93 period.

\textsuperscript{111} The majority of these firms were not able to make comparisons because they had dealt with only one company.

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Overall, Lehigh and Lafarge were ranked equally by 43 percent of purchasers with respect to terms of sale; 37 percent with respect to return provisions; 31 percent for sales service; and 30 percent for technical assistance. Lafarge was cited by \textsuperscript{114} percent of the purchasers for having superior technical assistance; \textsuperscript{115} percent for better sales service; \textsuperscript{116} percent for terms of sale; and \textsuperscript{117} percent for return provisions. Lehigh was identified by \textsuperscript{118} percent of purchasers for having better terms of sale. \textsuperscript{119}

Purchasers also were asked to rate how closely domestic and French ordinary CA cement compare on the basis of factors such as availability, reliability of supply, quality and price. The combined responses (in terms of preferences) of all purchasers are reported in the tabulation at the top of the next page (in percent).\textsuperscript{120}

**Pricing Strategies and Other Considerations**

Both ordinary and white CA cement are priced, to some extent, on the basis of the alumina content contained in the cement.\textsuperscript{121} Ordinary CA cement is sold directly from the plant and from regional warehouses on a spot and contract basis.\textsuperscript{122} reported selling CA cement on a \textsuperscript{123} and \textsuperscript{124} provided for volume sales.\textsuperscript{125} \textsuperscript{126} publishes price lists for its products. The standard minimum shipment for \textsuperscript{127} and payment terms are \textsuperscript{128} In contrast, \textsuperscript{129} \textsuperscript{130} 's standard minimum shipment is \textsuperscript{131}, \textsuperscript{132} percent of \textsuperscript{133} 's sales are covered by contracts and \textsuperscript{134} percent are quoted on a delivered plant basis.

The Commission also requested purchasers to describe the types of contractual and pricing agreements common to this industry as well as any differences between the suppliers. Most purchasers reported that their firms did not discuss the bids of competing suppliers in order to induce a particular supplier to lower its prices. However, approximately 44 percent of the refractories manufacturers and 29 percent of the firms in the non-refractories sector

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\textsuperscript{114} Based on responses of 27 refractory manufacturers and 23 non-refractories firms. Nine refractories manufacturers and 27 non-refractories firms were unable to (or chose not to) respond to this question.

\textsuperscript{115} According to data submitted by Lafarge CA and Lehigh, bauxite, the source of alumina in ordinary CA cement, generally accounts for greater than \textsuperscript{116} percent of the cost of raw materials used to make the various brands of ordinary CA clinker. In terms of overall production costs, the portion accounted for by the bauxite varies somewhat depending on the brand and the manufacturer. For example, in 1993, bauxite accounted for \textsuperscript{117} and \textsuperscript{118} percent of the total cost of Fonda, Secar 41, and Secar 51, respectively. Bauxite accounted for \textsuperscript{119} and \textsuperscript{120} percent of the total cost of production for Lummite and Refcon, respectively. However, although bauxite is a \textsuperscript{121} component in these products, there are many other factors that can affect the pricing of these products.

\textsuperscript{117} Purchasers indicated some degree of variation in the payment terms offered by these companies.
reported that purchasing terms were at least somewhat negotiable. Although the majority of refractories manufacturers reported that the price of the CA cement products changed infrequently (or not at all during the period of investigation), approximately *** percent of the firms in the non-refractories sector reported annual (or biannual) price changes. Firms in the non-refractories sector also generally reported *** discounts from ***. Refractories manufacturers reported a greater range in payment terms from these suppliers.118

Transportation costs can account for a variable but significant percentage of the total cost of CA cement. In addition to varying in terms of distance, there is a significant difference in the cost to ship less-than-truckload quantities. As a result, some purchasers indicated that their firms purchased CA cement from either Lafarge or Alcoa because the companies offered a wider range of products. This allowed them to combine shipments to achieve truckload quantities and thereby reduce their overall shipping costs. The percentage of the total cost of the final product accounted for by shipping costs reported by purchasers responding to the Commission's questionnaire varied significantly, ranging from estimates of less than 2 percent to 27 percent.

118 Some firms reported receiving ***.

Producer and Importer. Value and Quantity Trends for CA Cement

The Commission requested quarterly value and quantity data from U.S. suppliers for their sales of ordinary and white CA cement to selected market areas during 1990-93. The market areas included—

- Bureau of Mines' Eastern Pennsylvania district;
- Bureau of Mines' Southern California district;
- Bureau of Mines' Northern Texas district;
- the State of Missouri; and
- the State of Ohio.

The firms were requested to further disaggregate their quarterly sales on the basis of whether the transactions were (1) for products sold in bulk or bagged form; (2) shipped directly from the plant or from regional warehouses; and (3) made on a delivered or f.o.b. basis. This level of disaggregation was required in order to take into account pricing differences associated with shipping and storage costs.

The Commission requested value and quantity data for the following brands of CA cement:
The Commission asked the firms to separate their data by brand because each of the brands differs in terms of chemical composition and other attributes that potentially affect the products' cost and price.

Lehigh, Alcoa, and Lafarge CA submitted usable value and quantity data. The reported quantity data from Lehigh and Lafarge CA for the brands listed above accounted for approximately *** and *** percent of their domestic shipments of ordinary CA cement, respectively; the quantity data reported by Alcoa accounted for *** percent of its domestic shipments of white CA cement in 1993. A discussion of trends in average unit values and quantities for white CA cement is included in appendix G.

The following sections discuss trends in average unit values and quantities for ordinary CA cement. The data represent weighted-average f.o.b. plant values for sales made on a delivered and f.o.b. basis for products shipped from the plant and the warehouse. The data are grouped by the brands that compete most directly with each other on the basis of alumina content and other properties. In general, both Lehigh and Lafarge reported that Lumnite (Lehigh) competes most directly with Secar 41, Fondu, and Fondu XR (Lafarge). As shown in table 1, ***. Refcon (Lehigh) competes most directly with Secar 51 (Lafarge). These products also differ with respect to chemical composition (including alumina) and melting points. The following section discusses trends for sales reported for the five regional market areas combined. At the regional level, prices offered by Lafarge and Lehigh exhibit a greater variance than when the sales data are aggregated as below. To some extent, such variances are a function of factors such as warehousing arrangements, shipping costs, and credit terms, as well as the other factors discussed above. Appendix H contains a more detailed review of regional market trends.

119 The other U.S. producer (*** provided quarterly sales data for its shipments of *** during the period. The data provided are for *** and are not in a form that corresponds to the breakouts requested by the Commission.

120 Lafarge reported *** to these market areas.

121 The firms reported shipping costs associated with their sales made on a delivered basis as well as the shipping costs (from the plant to the warehouse) associated with their sales made on an f.o.b. warehouse basis. This allowed Commission staff to calculate the weighted-average f.o.b. plant values reported herein.

122 ***.

123 There is *** in chemical composition between the white CA cement produced by Alcoa (CA 14) and the comparable product manufactured by Lafarge (Secar 71).

Average unit value trends for packaged sales of ordinary CA cement

Table 23 shows average unit value and quantity trends for packaged ordinary CA cement sold in all five market areas during 1990-93. These unit value trends are also shown in figure 2; the data are grouped according to brands that are the most comparable in terms of their respective chemical composition. The average unit values reported for Lumnite (Lehigh) were *** than those reported for Secar 41 (Lafarge) and *** than those reported for Fondu (Lafarge) and Fondu XR (Lafarge). The average unit values reported for Refcon (Lehigh) were *** than those reported for Secar 51 (Lafarge). Comparing the first quarter 1990 average unit values to those reported in the fourth quarter of 1993, reported average unit values *** for *** except ***, which *** by *** percent. The average unit value differentials that are reflected in figure 2 are presented in appendix I.

Table 23
Ordinary CA cement: U.S. producer’s and importer’s average unit values (f.o.b. plant) and quantities of packaged sales to eastern Pennsylvania, Southern California, Northern Texas, Mississippi, and Ohio, by brands and by quarters, Jan. 1990-Dec. 1993

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Average Unit Value</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 2
Average unit values of packaged ordinary CA cement, 1990-93

* * * * * * *

In terms of quantity, reported sales of both of Lehigh's products *** (on an annual basis). Sales of ***, **. Comparing total reported sales for 1990 versus those for 1993, ***, **.

Average unit value trends for bulk sales of ordinary CA cement

Table 24 shows average unit value and quantity trends for bulk ordinary CA cement sold in all five market areas during 1990-93. These unit value trends are also shown in figure 3. Overall trends in bulk sales of ordinary CA cement ***, those reported for packaged sales. Lafarge reported *** bulk sales of *** during ***. Comparing the first quarter of 1990 to the fourth quarter of 1993, the reported average unit

124 ***.
125 In 1990, ***'s total sales of ordinary CA cement accounted for *** percent of the total share of these market areas. In 1993, the firm's sales accounted for *** percent.
value for ***, and that for **. The average unit value differentials that are reflected in figure 3 are reported in appendix I.

Table 24
Ordinary CA cement: U.S. producer’s and Importer’s average unit values (f.o.b. plant) and quantities of bulk sales to Eastern Pennsylvania, Southern California, Northern Texas, Missouri, and Ohio, by brands and by quarters, Jan. 1990-Dec. 1993

| Quarter  | Brand | Average Unit Value
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$/ton</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1990-93</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3
Average unit values of bulk ordinary CA cement, 1990-93

With respect to packaged sales, average unit values reported for Lummite were generally *** those reported for Fondu. However, *** purchasers reported values for Lummite that were generally *** than those reported for Secar 41 and ** more than those reported for Fondu XR. The values for Refcon and Secar 51 were *** with sales data reported by Lafarge and Lehigh.

The data for bulk purchases also differed from the sales data reported by the two suppliers. Average unit values reported for Lummite generally were *** than those reported for Secar 41 and *** than those reported for Fondu. The average unit values reported for Secar 51 ***. The values for Secar 51 were ** more than those reported for purchases of Refcon.

Lost Sales and Lost Revenues

The Commission received allegations of lost sales and revenues ***. In its questionnaire response, Lehigh reported *** that amounted to approximately *** allegedly purchased from the French supplier during 1990-93. The company also reported *** amounting to approximately *** during 1989. In addition, Lehigh noted that it had *** of CA flux ***.

*** reported that in 1991 and 1992 it could *** that was similar to *** because the price of *** was so low. The company did not provide any value or quantity information or documentation to support this allegation.

Lehigh also reported *** lost revenue allegations that amounted to *** of ordinary CA cement. The allegations generally encompass *** the period of investigation. Lehigh also alleged that it had lost revenues associated with its sales of CA flux. However, the company *** related to this allegation. Instead, ***. *** also reported *** lost revenue allegation that took place during the period of investigation. However, it is not clear from the information reported whether a sale transaction actually occurred.

The Commission contacted all of the firms cited in ***’s lost sales and lost revenues allegations regarding...
ordinary CA cement. All but one of the firms received and responded to the Commission’s purchaser questionnaire.\textsuperscript{127}

In general it was difficult to verify Lehigh’s allegations because the allegations covered periods as early as 1986 and with a few exceptions spanned a multiyear period that began prior to 1991. Data requested from purchasers were limited to 1991-93. The quantities cited in most of the allegations represent the total quantity Lehigh estimated that the firms purchased during the entire period cited. Because most of these firms’ sales were adversely affected by the recession in the early 1990s and because many of the firms have shifted some of their purchases to white CA cement, the alleged quantities of lost sales do not necessarily represent what the firms’ purchases would have been had they purchased 100 percent of their ordinary CA cement from Lehigh. However, it is important to note that the data contained in the Commission’s purchaser questionnaires may underestimate the quantities of specific brands purchased by some of these firms. Purchasers with multi-plant operations were only asked to provide quarterly purchasing data for the manufacturing facility that purchased the largest quantity of a particular brand of cement.

\textsuperscript{127} The information provided below and in app. K was drawn from the questionnaire responses of all of the firms listed except ***.

\textbf{Exchange Rates}

Quarterly data reported by the International Monetary Fund indicate that during January-March 1990 through October-December 1993 the nominal value of the French franc fluctuated, depreciating only 1.7 percent overall relative to the U.S. dollar (figure 6). Adjusted for movements in producer price indices in the United States and France, the real value of the French currency showed an overall depreciation of 11.1 percent for the period January-March 1990 through July-September 1993, the most recent period for which official price data are available.

\textsuperscript{128} ***
Appendix A

*Federal Register* Notices
filing posthearing briefs is April 1, 1994; witness testimony must be filed no later than three (3) days before the hearing. In addition, any person who has not entered an appearance as a party to the investigation may submit a written statement of information pertinent to the subject of the investigation on or before April 1, 1994. All written submissions must conform with the provisions of § 201.8 of the Commission's rules; any submissions that contain BPI must also conform with the requirements of §§ 201.6, 207.3, and 207.7 of the Commission's rules.

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

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

By order of the Commission.

Issued: December 17, 1993.

Deana R. Kesler,
Secretary.

[FR Doc. 93–31232 Filed 12–21–93; 8:45 am]
INTERNATIONAL TRADE COMMISSION

[Investigation No. 731-7A-645 Final]

Certain Calcium Aluminate Cement and Cement Clinker From France; Revised Schedule for the Subject Investigation

ACTION: Revised schedule for the subject investigation.


SUPPLEMENTARY INFORMATION: Effective November 1, 1993, the Commission
International Trade Administration
[A-427-812]

Final Determinations of Sales at Less Than Fair Value: Calcium Aluminate Cement, Cement Clinker and Flux From France

AGENCY: Import Administration, International Trade Administration, Commerce.


FOR FURTHER INFORMATION CONTACT: V. Irene Derentas or Katherine Johnson, Office of Antidumping Investigations, Import Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20220; telephone (202) 482-6320 or 482-4929, respectively.

Final Determinations

We determine that calcium aluminate (CA) cement, cement clinker and flux from France are being, or are likely to be, sold in the United States at less than fair value, as provided in section 735 of the Tariff Act of 1930, as amended (the Act). The estimated margins are shown in the “Suspension of Liquidation” section of this notice.

Scope of Investigations

The products subject to these investigations constitute two classes or kinds of merchandise: (1) CA cement and cement clinker, and (2) CA flux. The products covered by these investigations include CA cement, cement clinker and flux, other than white, high purity CA cement, cement clinker and flux. These products contain by weight more than 32 percent but less than 65 percent alumina and more than one percent each of iron and silica.

CA cement/cement clinker and CA flux have significantly different physical characteristics and end uses. CA cement is a specialty hydraulic non-portland cement used for construction purposes. CA cement clinker is the primary material used as a binding agent in the production of CA cement. CA flux is used primarily as a desulfurizer and/or cleaning agent in the steel manufacturing process. CA clinker produced for sale as flux cannot be used to produce CA cement, and CA clinker used to produce CA cement cannot be used as a flux in the production of steel.

CA flux has a chemical composition distinct from CA cement clinker. CA cement clinker contains the hydraulic mineral mono-calcium aluminate, which gives it a molar ratio of lime to alumina of approximately 1:1. In contrast, CA clinker sold as flux does not contain mono-calcium aluminate; it contains the complex mineral Ca$_3$Al$_2$O$_7$ (12CaO * 7Al$_2$O$_3$), which gives it a molar ratio of lime to alumina of approximately 2:1. This higher lime to alumina ratio gives the CA clinker sold as flux a lower melting point than CA cement, and also results in extra lime which can bond with sulfur and other impurities in molten steel. Although CA clinker sold as flux has some hydraulic properties, it hydrates too quickly to be used for those purposes.

These products are currently classifiable under the following
-continued-

We gratefully acknowledge the contributions of the following individuals to the preparation of this edition:

*John Doe*

*Jane Smith*

*Michael Brown*

*Susan Johnson*

We also wish to express our appreciation to the following organizations for their support and assistance:

*The American Library Association*

*The National Science Foundation*

*The University of Chicago Press*

*The Institute of Electrical and Electronics Engineers*

*The Society for Industrial and Applied Mathematics*

We hope that this edition will meet the needs of our readers and continue to contribute to the field of knowledge.

Additional resources:

*Additional Readings*

*Supplementary Materials*

*Appendices*

We welcome feedback and suggestions for future editions.

Thank you for your support and interest in this project.
verification, in accordance with 19 CFR 353.31(a)(1), it did not contain sufficient data for purposes of dumping analysis. Therefore, because we did not have complete sales information on the record to properly analyze these sales, we used BIA.

However, we do not think that use of the petition rate as BIA for these sales, as suggested by petitioner, is warranted. In this case, we are using partial BIA because we were not provided responsive data to our questionnaires. When we resort to partial BIA it is our practice to use the highest non-abnormal margin based on respondent's reported sales. This is an adverse figure, yet based on the respondent's calculated margins. Therefore, we have used as BIA for these sales the highest, non-abnormal margin calculated for any of respondent's reported U.S. sales of cement.

Comment 2

Petitioner contends that certain reported U.S. cement sales alleged to have been made under an exclusive supply contract dated outside the FOC should be included in the Department's analysis. Petitioner argues that the Department was unable to verify that the sales were in fact made pursuant to a Master Agreement that Lafarge claims was an exclusive supply contract. Accordingly, petitioner maintains that respondent failed to verify these sales with respect to these sales. Furthermore, petitioner contends that, even if the Department had been able to verify these sales, respondent never had an exclusive supply contract with this particular customer. Petitioner asserts that the Master Agreement is neither an exclusive nor a contract. Therefore, petitioner argues that the Department should determine that the appropriate date of sale for these particular sales is the date of invoice, which is within the FOC and the Department should include these sales in its dumping calculation.

Respondent maintains that the Department should consider the date of the Master Agreement as the date of sale for the subject sales. Respondent argues that the blanket purchase orders issued by the customer prior to the FOC indicates the customer's commitment to purchase its requirements from the respondent for specific products at the specific prices set by the Master Agreement.

DOC Position

We agree with petitioner. In our deficiency questionnaire of December 14, 1993, the Department specifically asked the respondent to support its assertion regarding the "exclusivity" of the Master Agreement. Respondent, in its December 29, 1993, response, could neither demonstrate that the Master Agreement was "exclusive," nor what quantity of the subject merchandise the respondent was agreeing to sell. Rather, Lafarge merely stated that the customer purchased all its requirements for certain cement products from it that the "volume commitments" mentioned in the Master Agreement had been agreed to beforehand. Since we have no documentation demonstrating that a "meeting of the minds" regarding both quantity and prices occurred before the FOC, we cannot assume, based on respondent's word, that the Master Agreement is a requirements contract for purposes of establishing date of sale. (See Crankshafta from the FRO and Cess Portland Cement from Mexico.) Accordingly, we have determined the appropriate date of sale for these particular sales to be the date of purchase order, and we have included them in our final dumping calculations.

Comment 9

Petitioner argues that the Department should reverse its preliminary determination that CA cement and CA cement clinker constitute two such or similar categories of merchandise in accordance with the definition of similar merchandise under section 771(10)(B)(ii) and (C)(ii) of the Act, which states that the component materials and uses of the products must be "like." (See June 25, 1993, Memorandum from Richard W. Moreland to Barbara R. Stafford Re Such or Similar Categories and attached Memorandum from Stafford to Moreland). In this case, while cement and clinker may be made of similar materials, they are not used for the same purposes. Clinker is used to make cement, and cement is used to bind things together or to create some structure or form. Clinker requires further processing to be like cement in the purposes for which it is used. For these reasons we have held cement and clinker to constitute different such or similar categories of merchandise in this case. Therefore, contrary to petitioner's assertion, the component materials and uses of products within the class or kind of merchandise subject to investigation are the determinants in establishing categories of such or similar merchandise; The 20 percent difference rule is not considered by the Department in establishing such or similar categories.

Comment 4

Respondent maintains that in the preliminary determination the Department incorrectly deducted from the USP as an indirect selling expense, inventory carrying costs (ICC) based on an inventory period including the time between production in France and production of the finished cement in the United States. Respondent claims that it did not sell clinker to an unrelated party in the United States, but rather to its U.S. subsidiary for further processing into cement. Therefore, the clinker in this case is work-in-process inventory, and the period between the production of the intermediate clinker and CA cement clinker are different such or similar categories at this late stage in the investigation. Respondent argues that it would be unfair for the Department to penalize it for failing to report information that the Department decided not to request. Furthermore, respondent contends that the statute does not allow the Department to use BIA in the information at issue was never requested.
Chapter 12

Consumer Protection

US products are protected by federal law, but are not guaranteed by the government unless the product is a vehicle. The Consumer Product Safety Act of 1972, as amended, provides a federal framework for the protection of consumers from hazardous products. The act requires manufacturers, importers, and retailers to ensure the safety of their products and to report any safety hazards to the Consumer Product Safety Commission (CPSC).

Chapter 13

Compliance

The Department of Transportation promulgates federal transportation regulations concerning motor vehicles, including all-terrain vehicles (ATVs) and off-highway vehicles (OHVs). These regulations cover safety standards, emission standards, and noise standards. The regulations are intended to ensure that vehicles meet certain minimum performance and safety requirements.

Chapter 14

Recall

If a manufacturer identifies a defect in a vehicle or a component that poses a safety risk, it must issue a recall to correct the defect. Recalls are necessary to protect consumers and ensure that vehicles are safe to use. The NHTSA is responsible for monitoring recalls and ensuring that they are conducted promptly and effectively.

Chapter 15

Environmental Protection

The US Environmental Protection Agency (EPA) regulates air and water quality standards for vehicles. The EPA sets standards for vehicle emissions and mandates that vehicles meet certain emissions limits to protect the environment.

Chapter 16

Product Liability

Consumer protection laws, such as the Consumer Product Safety Act, also provide protection against personal injury caused by defects in products. These laws allow consumers to sue manufacturers for damages caused by defective products.


Comment 18

Record of Payment

The record of payment, which is maintained by the property owner, shows all the payments made by the tenant. The payments are typically made on a monthly basis, and the record includes details such as the amount paid, the date of payment, and the purpose of the payment. This record is important for both the property owner and the tenant, as it provides a clear history of the financial transactions that have taken place.

Comment 19

We agree with the position on the need for a detailed record of all payments made by the tenant. This record should be maintained by the property owner, and it should include all payments made, regardless of the purpose. The record should be updated regularly, and it should be accessible to both the property owner and the tenant. This will help to ensure that all payments are recorded accurately and that there are no disputes over the payments made by the tenant.

We agree with the position that the landlord should maintain a record of all payments made by the tenant. This record should be maintained in a secure manner, and it should be accessible to both the landlord and the tenant. The record should be updated regularly, and it should be available for inspection by the tenant at any time. This will help to ensure that all payments are recorded accurately and that there are no disputes over the payments made by the tenant.

We agree with the position that the landlord should maintain a record of all payments made by the tenant. This record should be maintained in a secure manner, and it should be accessible to both the landlord and the tenant. The record should be updated regularly, and it should be available for inspection by the tenant at any time. This will help to ensure that all payments are recorded accurately and that there are no disputes over the payments made by the tenant.
the Federal Register. The Customs Service shall require a cash deposit or posting of a bond equal to the estimated margin amount by which the FMV of the subject merchandise exceeds the USP, as shown below. The less than fair value margins for CA cement and cement clinker are as follows:

<table>
<thead>
<tr>
<th>Producer/manufacturer/distributor</th>
<th>Weighted-average margin percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>18.91</td>
</tr>
<tr>
<td>All Others</td>
<td>18.91</td>
</tr>
</tbody>
</table>

The less than fair value margins for CA flux are as follows:

<table>
<thead>
<tr>
<th>Producer/manufacturer/distributor</th>
<th>Weighted-average margin percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large</td>
<td>31.05</td>
</tr>
<tr>
<td>All Others</td>
<td>31.05</td>
</tr>
</tbody>
</table>

ITC Notification

In accordance with section 735(d) of the Act, we have notified the International Trade Commission (ITC) of our determinations. As our final determinations are affirmative, the ITC will determine whether these imports are materially injurious, or threaten material injury to, the U.S. industry within 45 days.

If the ITC determines that material injury or threat of material injury does not exist, the proceedings will be terminated and all securities posted as a result of the suspension of liquidation will be refunded or cancelled. However, if the ITC determines that such injury does exist, we will issue an antidumping duty order directing Customs officers to assess an antidumping duty on CA cement, cement clinker and flux from France entered or withdrawn from warehouse, for consumption on or after the date of suspension of liquidation.

Notification to Interested Parties

This notice serves as the only reminder to parties subject to administrative protective order (APO) in these investigations of their responsibility covering the return or destruction of proprietary information disclosed under APO in accordance with 19 CFR 353.34(d). Failure to comply is a violation of the APO.

These determinations are published pursuant to section 735(d) of the Act (19 U.S.C. 1673d(d)) and 19 CFR 353.20(a)(4).
Appendix B
List of Witnesses Appearing at the Commission's Hearing
Those listed below appeared as witnesses at the United States International Trade Commission's hearing:

Subject : CERTAIN CALCIUM ALUMINATE CEMENT, CEMENT CLINKER, AND FLUX FROM FRANCE

Inv. No. : 731-TA-645 (Final)

Date and Time : March 31, 1994 - 9:30 a.m.

Sessions were held in connection with the investigation in the Main Hearing Room 101 of the United States International Trade Commission, 500 E St., SW, Washington, DC.

In Support of the Imposition of Antidumping Duties:

King & Spalding
Washington, DC
On behalf of

Lehigh Portland Cement Company, Allentown, PA

Roy J. Bottjer, National Marketing Manager, Calcium Aluminate Cements & Special Cement Products

Adam G. Holterhoff, Jr., Manager, Technical Services, Calcium Aluminate Cements

Paul A. Pachapa, Plant Manager

Bruce P. Malashevich, President, Economic Consulting Services, Inc., Washington, DC

Jerrie Mirga, Senior Economist, Economic Consulting Services, Inc., Washington, DC

James J. Kelly, Vice President, National Recovery Systems, E. Chicago, IN

Joseph W. Dorn
Gregory C. Dorris —OF COUNSEL

In Opposition to the Imposition of Antidumping Duties:

Shearman & Sterling
Washington, DC
On behalf of

Lafarge Fondu International (LFI)
Lafarge Calcium Aluminates, Inc. (LCA)

Alain Bucaillle, General Director, LFI

Gary Gauthier, President, LCA

Thomas W. Green, National Sales Manager, LCA

William J. West, Vice President/General Manager, West Minerals

Grant E. Finlayson
Wendy E. Ackerman —OF COUNSEL
Appendix C

Summary Data Concerning the
U.S. Market for Ordinary CA Cement
Products and for White CA Cement
Table C-1a
Ordinary CA cement: Summary data concerning the U.S. market (where Lafarge CA is not included as a U.S. producer)

Table C-1b
Ordinary CA cement: Summary data concerning the U.S. market (where Lafarge CA is included as a U.S. producer), 1990-93

Table C-2
Ordinary CAC clinker: Summary data concerning the U.S. market, 1990-93

Table C-3
CA flux: Summary data concerning the U.S. market, 1990-93

Table C-4
Ordinary CAC clinker and CA flux: Summary data concerning the U.S. market, 1990-93

Table C-5a
White CA cement: Summary data concerning the U.S. market (where Lafarge CA is not included as a U.S. producer), 1990-93

Table C-5b
White CA cement: Summary data concerning the U.S. market (where Lafarge CA is included as a U.S. producer), 1990-93

Table C-6a
Ordinary and white CA cement: Summary data concerning the U.S. market (where Lafarge CA is not included as a U.S. producer of ordinary or white CA cement), 1990-93

Table C-6b
Ordinary and white CA cement: Summary data concerning the U.S. market (where Lafarge CA is included as a U.S. producer of both ordinary and white CA cement), 1990-93

Table C-7
Ordinary and white CAC clinker and CA flux: Summary data concerning the U.S. market, 1990-93
Appendix D
Additional Data on U.S. Shipments of
Ordinary CA Cement By Brands of
Cement and by End-Use Applications
Table D-1

Table D-2

Table D-3
Ordinary CA cement: U.S. shipments of U.S. producers, by brands of cement, 1990-93

Table D-4
Ordinary CA cement: U.S. producers' U.S. shipments, by applications and by firms, 1990-93
Appendix E
Additional Data on Financial Operations of CA Cement Products
Table E-1  
Income-and-loss experience of Lehigh on its operations producing CA flux, calendar years 1990-93

Table E-2  
Income-and-loss experience of U.S. producers on their operations producing white CA cement and CAC clinker, calendar years 1990-93

Table E-3  
Income-and-loss experience of U.S. producers on their operations producing ordinary CA cement and CA flux, calendar years 1990-93

Table E-4  
Income-and-loss experience of U.S. producers on their operations producing ordinary and white CA cement and CAC clinker, calendar years 1990-93

Table E-5  
Value of assets and return on assets of U.S. producers' operations producing ordinary and white CA cement and CAC clinker and CA flux, fiscal years 1990-93

Table E-6  
Capital expenditures by U.S. producers of ordinary and white CA cement and CAC clinker and CA flux, by products, fiscal years 1990-93

Table E-7  
Research and development expenses of U.S. producers of ordinary and white CA cement and CAC clinker and CA flux, by products, fiscal years 1990-93
Appendix F
Effects of Imports on Producers’
Existing Development and
Production Efforts, Growth,
Investment, and Ability to
Raise Capital
Effects of Imports on Producers' Existing Development and Production Efforts, Growth, Investment, and Ability to Raise Capital

The Commission requested U.S. producers to describe any actual or anticipated negative effects of imports of ordinary CA cement, ordinary CAC clinker, and CA flux from France on their growth, investment, ability to raise capital, or existing development and production efforts, including efforts to develop a derivative or more advanced version of the product. The Commission also asked U.S. producers to report the influence of such imports on their scale of capital investments undertaken. The responses are as follows:

• • • • • • •
Appendix G
Average Unit Value Trends for
White CA Cement
Average Unit Value Trends for White CA Cement

Neither Lafarge nor Alcoa reported *** of white CA cement to firms ***. Consequently, the following discussion is limited to these firms' sales of the ***. Lafarge reported sales in *** (tables G-1-G-4). Alcoa *** sales to ***. Both firms' reported sales were *** during the four years and reported average unit values fluctuated significantly. For the most part, the average unit values reported by Alcoa for CA 14 were *** than those reported by Lafarge for its sales of Secar 71. Lafarge reported *** of Secar 71 during *** and reported *** sales of this product during ***.

Table G-1
White CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of packaged sales to eastern Pennsylvania, by brands and by quarters, Jan. 1990-Dec. 1993

Table G-2
White CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of packaged sales to northern Texas, by brands and by quarters, Jan. 1990-Dec. 1993

Table G-3
White CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of packaged sales to Missouri, by brands and by quarters, Jan. 1990-Dec. 1993

Table G-4
White CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of packaged sales to Ohio, by brands and by quarters, Jan. 1990-Dec. 1993
Appendix H
Regional Analysis of Average Unit Value Trends for Ordinary CA Cement
Eastern Pennsylvania

Table H-1
Ordinary CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of packaged sales to eastern Pennsylvania, by brands and by quarters, Jan. 1990-Dec. 1993

Figure H-1
Average unit values of packaged ordinary CA cement, Eastern Pennsylvania, 1990-93

Table H-2
Ordinary CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of bulk sales to Eastern Pennsylvania, by brands and by quarters, Jan. 1990-Dec. 1993

Figure H-2
Average unit values of bulk ordinary CA cement, Eastern Pennsylvania, 1990-93

Southern California

Table H-3
Ordinary CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of packaged sales to southern California, by brands and by quarters, Jan. 1990-Dec. 1993

Figure H-3
Average unit values of packaged ordinary CA cement, Southern California, 1990-93

Table H-4
Ordinary CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of bulk sales to Southern California, by brands and by quarters, Jan. 1990-Dec. 1993

Figure H-4
Average unit values of bulk ordinary CA cement, Southern California, 1990-93
Table H-5
Ordinary CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of packaged sales to northern Texas, by brands and by quarters, Jan. 1990-Dec. 1993

Figure H-5
Average unit values of packaged ordinary CA cement, Northern Texas, 1990-93

Table H-6
Ordinary CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of packaged sales to Missouri, by brands and by quarters, Jan. 1990-Dec. 1993

Figure H-6
Average unit values of packaged ordinary CA cement, Missouri, 1990-93

Table H-7
Ordinary CA cement: U.S. producer's and importer's average unit values (f.o.b. plant) and quantities of bulk sales to Missouri, by brands and by quarters, Jan. 1990-Dec. 1993

Figure H-7
Average unit values of bulk ordinary CA cement, Missouri, 1990-93
Ohio

Table H-8
Ordinary CA cement: U.S. producer’s and importer’s average unit values (f.o.b. plant) and quantities of packaged sales to Ohio, by brands and by quarters, Jan. 1990-Dec. 1993

Figure H-8
Average unit values of packaged ordinary CA cement, Ohio, 1990-93

Table H-9
Ordinary CA cement: U.S. producer’s and importer’s average unit values (f.o.b. plant) and quantities of bulk sales to Ohio, by brands and by quarters, Jan. 1990-Dec. 1993
Appendix I
Average Unit Value Differentials for Ordinary CA Cement
Table 1-1
Ordinary CA cement: Average unit value differentials for packaged sales, by quarters, 1990-93

* * * * * * *

Table 1-2
Ordinary CA cement: Average unit value differentials for bulk sales, by quarters, 1990-93

* * * * * * *
Appendix J
Purchaser Average Unit Value
and Quantity Data for Ordinary
CA Cement
Table J-1
Ordinary CA cement: Average unit values and quantities of packaged purchases from the plant (f.o.b.), by brands and by quarters, Jan. 1991-Dec. 1993

Table J-2
Ordinary CA cement: Average unit values and quantities of bulk purchases from the plant (f.o.b.), by brands and by quarters, Jan. 1991-Dec. 1993

Table J-3
Ordinary CA cement: Total quantities of purchases by refractories manufacturers, by brands and by quarters, Jan. 1991-Dec. 1993

Table J-4
Appendix K
Summary of Lost Sales and
Lost Revenues Information