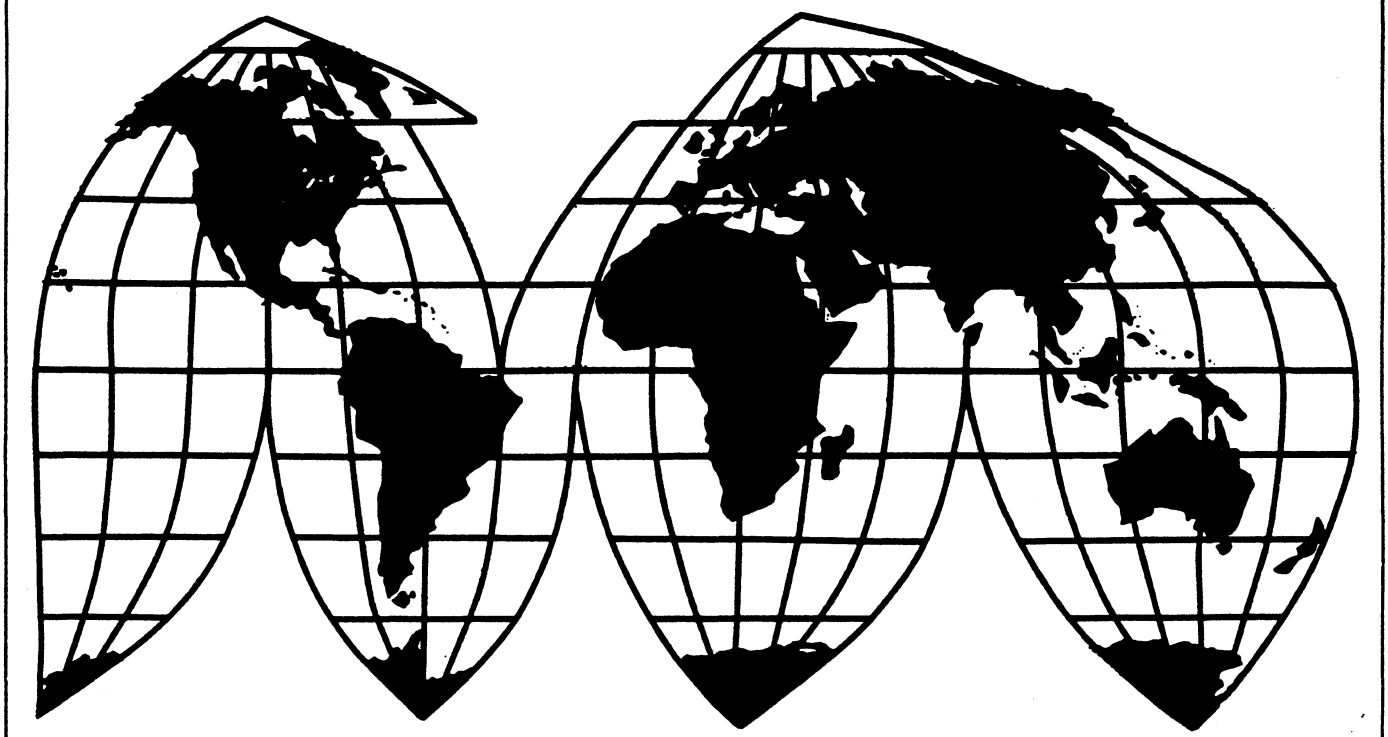
Certain Calcium Aluminate Cement and Cement Clinker From France

Determination of the Commission in
Investigation No. 731-TA-645 (Preliminary)
Under the Tariff Act of 1930,
Together With the Information
Obtained in the Investigation

Publication 2637 **May 1993**

U.S. International Trade Commission



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U.S. International Trade Commission

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Note.--Information that would reveal confidential operations of individual concerns may not be published and therefore has been deleted from this report.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

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation No. 731-TA-645 (Preliminary)

CERTAIN CALCIUM ALUMINATE CEMENT AND CEMENT CLINKER FROM FRANCE

Determination

On the basis of the record[1] developed in the subject investigation, the Commission unanimously determines, pursuant to section 733(a) of the Tariff Act of 1930 (19 U.S.C. § 1673b(a)), that there is a reasonable indication that industries in the United States are materially injured by reason of imports from France of certain calcium aluminate cement and cement clinker, and imports of calcium aluminate cement clinker manufactured for use as flux, provided for in subheadings 2523.10.00 and 2523.30.00 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value (LTFV).

Background

On March 31, 1993, a petition was filed with the Commission and the Department of Commerce by Lehigh Portland Cement Company, Allentown, PA, alleging that an industry in the United States is materially injured and threatened with further material injury by reason of LTFV imports of certain calcium aluminate cement and cement clinker from France. Accordingly, effective March 31, 1993, the Commission instituted antidumping investigation No. 731-TA-645 (Preliminary).

Notice of the institution of the Commission's investigation and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register of April 8, 1993 (58 F.R. 18227). The conference was held in Washington, DC, on April 21, 1993, and all persons who requested the opportunity were permitted to appear in person or by counsel.

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

VIEWS OF THE COMMISSION

Based on the record in this preliminary investigation, we unanimously determine that there is a reasonable indication that industries in the United States are materially injured by reason of imports of calcium aluminate (CA) cement and cement clinker, and imports of CA clinker manufactured for use as flux ("CA flux"), from France that allegedly are sold at less than fair value (LTFV).[1]

I. THE LEGAL STANDARD FOR PRELIMINARY INVESTIGATIONS

The legal standard in preliminary antidumping duty investigations requires the Commission to determine, based upon the best information available at the time of the preliminary determination, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury by reason of the allegedly LTFV imports.[2] In applying this standard, the Commission may weigh the evidence before it to determine whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of material injury; and (2) no likelihood exists that any contrary evidence will arise in a final investigation."[3] The U.S. Court of Appeals for the Federal Circuit has held that this interpretation of the standard "accords with clearly discernible legislative intent and is sufficiently reasonable."[4]

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[1] 19 U.S.C. § 1673b(a). Whether the establishment of an industry in the United States is materially retarded is not an issue in this investigation.

[2] 19 U.S.C. § 1673b(a). See also American Lamb Co. v. United States, 785 F.2d 994 (Fed. Cir. 1986); Calabrian Corp. v. United States, 794 F. Supp. 377, 386 (Ct. Int'l Trade 1992).

[3] American Lamb, 785 F.2d at 1001. See also Torrington Co. v. United States, 790 F. Supp. 1161, 1165 (CIT 1992).

[4] American Lamb, 785 F.2d 994 at 1004.

II. LIKE PRODUCT

A. In General

In determining whether there is a reasonable indication that an industry in the United States is materially injured or is threatened with material injury by reason of the allegedly LTFV 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 . . . ."[5] 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 . . . ."[6]

The Department of Commerce ("Commerce") has identified the articles subject to this investigation as:

> calcium aluminate cement and cement clinker other than white, high purity calcium aluminate cement and cement clinker. The products

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[5] 19 U.S.C. § 1677(4)(A).

[6] 19 U.S.C. § 1677(10). The Commission's determination of what is the appropriate like product or products is a factual determination, and the Commission applies the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis. In analyzing like product issues, the Commission considers a number of factors including: (1) physical characteristics and uses; (2) interchangeability of the products; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) the use of common manufacturing facilities and production employees; and (6) where appropriate, price. Calabrian Corp. v. United States, 794 F. Supp. at 382, n.4 (Ct. Int'l Trade 1992). No single factor is dispositive, and the Commission may consider other factors relevant to its like product determination in a particular investigation. The Commission looks for clear dividing lines among possible like products, and disregards minor variations. 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).

> included in this investigation contain by weight more than 32 percent but less than 65 percent alumina and more than one percent each of iron and silica. Clinker is the primary raw material used in the cement production process.[7]

The imported product subject to investigation is calcium aluminate (CA) cement and cement clinker (other than white, high purity CA cement and cement clinker) from France. CA cement is a specialty hydraulic, non-Portland cement that has a high alumina content which imparts such beneficial qualities as resistance to extreme temperatures and corrosion; CA cement also has fast hardening characteristics.[8] CA cement is used primarily by the refractory and construction industries as an input material for binding purposes in making special concretes.[9] CA clinker serves two functions: (1) as an intermediate material in producing CA cement and (2) as a desulfurizer (a kind of fluxing agent) for making steel.[10] The raw material mixture for CA clinker consists of various amounts of crude, uncalcined bauxite (as a source of alumina, iron, and silica) and limestone (as a source of calcium). The amount of each input depends on the end-use to which the CA clinker is to be put.[11]

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[7] See 58 Fed. Reg. 21971 (April 26, 1993). Report at A-3.

[8] See Report at I-7 - I-9.

[9] Id. at I-9. In the refractory industry, CA cement is used as a binding agent in the production of castables and gunning mixes (refractory concretes and mortars) that are used to construct furnaces for the production of metals, power generation, and petrochemical and oil refining. Id. The construction industry uses CA cement for corrosion resistant applications (floor coatings to withstand chemicals in dairy plants, breweries, and sugar processing plants), for temperature resistant applications (floor coats to withstand the heat impact from furnace fired materials or molten spills), and for quick hardening applications. Id.

[10] Id. at I-7. CA cement clinker must be further processed in a grinding operation to produce CA cement. CA clinker for flux also may undergo a less extensive, further processing step -- it is crushed. Id.

[11] Id. at I-7.

B. **Like Product Analysis**

In this preliminary investigation, we have considered four like product issues: (1) whether CA clinker manufactured for sale as flux (CA flux) constitutes a separate like product from CA clinker manufactured for grinding into CA cement (CA cement clinker); (2) whether other non-clinker flux agents are like CA flux; (3) whether CA cement clinker (not including CA flux) and CA cement constitute one like product; and (4) whether white, high purity CA cement and clinker is like CA cement and clinker so as to be included in the CA cement like product.

1. **Whether CA flux constitutes a separate like product**

The physical characteristics of CA cement clinker and CA flux are similar -- 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.[12] However, while the two types of clinker are derived from the same raw materials -- crude, uncalcined bauxite and limestone -- the ratio of raw materials determines the precise chemical composition of the clinker, which in turn determines its end-use, either grinding into CA cement or sale as CA flux.[13] For example, CA cement clinker has a higher ratio of bauxite (alumina) to limestone, which provides it the essential characteristics to be

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[12] Report at I-7.

[13] Petitioner stated that "[t]he dividing line between CA clinker dedicated to production of CA cement and CA clinker dedicated for use as flux is the calcium oxide (CaO) content by weight. . . .If the CaO content is less than or equal to 41 percent, the clinker is dedicated to production of CA cement; if the CaO content is over 41 percent, the clinker is dedicated for use as flux." Petitioner's Postconference Brief at 25.

a binding, rather than a desulfurizing, agent.[14]

Because of the difference in the chemical composition requirements for the two end-use applications, CA flux cannot be used for the production of CA cement, and CA cement clinker cannot be used as flux.[15] Therefore, CA cement clinker and CA flux are not interchangeable.

The channels of distribution are also different. Most CA flux is sold to distributors.[16] CA cement clinker is not sold in the open market. Petitioner, Lehigh, the sole domestic producer of CA clinker, grinds all of its CA cement clinker into cement and does not sell it as an intermediate product to other firms for grinding.[17] Respondent, Lafarge CA, grinds virtually all of the CA cement clinker that is imported from its French parent company, Lafarge Fondu International ("Lafarge"), into cement.[18]

With regard to customer perceptions, since there are no open market sales of CA cement clinker in the United States, customers would have to compare CA cement to CA flux and, therefore, would likely perceive them as different products. While the parties disagree whether the two types of clinkers are one like product, both agree that the products are not sold interchangeably or even to the same end-users or distributors.

After determining the chemical composition, i.e., which type of clinker is to be made, the process for production of all CA clinker, whether for

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[14] Report at I-7 - I-9; Petition at 8. Respondent contended that the CA cement clinker has a ratio for limestone to alumina of one-to-one. Tr. at 61. Respondent also maintained that the ratio of limestone to alumina for CA flux is two-to-one. Tr. at 69.

[15] Report at I-7.

[16] Report at I-11.

[17] Report at I-11.

[18] Report at I-12.

cement or flux, is the same.[19] Producers use the same equipment and employees to produce both CA cement clinker and CA flux.[20] However, the raw materials going into the front-end of the production process are different and CA cement clinker must be further processed in a grinding operation to produce CA cement. CA clinker for flux also may undergo a different, less extensive, further processing step -- it is crushed to meet industry size requirements.[21]

In sum, CA cement clinker and CA flux have the same physical appearance and, at least up to the clinker stage, are produced in the same manner and on the same equipment. However, these products have different chemical compositions, different end-uses with no interchangeability, different channels of distribution, and are perceived as different products by customers and, to a varying degree, by the parties themselves. Therefore, in this preliminary investigation, we find that CA cement clinker manufactured for use as flux is a like product separate from CA cement clinker.

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[19] Since, as discussed below, respondent would include slag in the CA flux like product, Lafarge contended that "[t]here are significant differences between the production facilities and processes used to manufacture CA flux and CA cement clinker." Respondent's Postconference Brief at 20. However, those differences relate to the difference between slag/flux production and clinker production, and do not distinguish CA flux and CA cement clinker production.

[20] Report at I-12 and I-13. There are two standardized processes used to blend the raw materials for either type of clinker -- sintering, which is used in the United States by the sole domestic producer, or fusion, which is currently used to produce the imported products. The different processes do not result in any differences in chemical or physical characteristics in the clinker produced. For the sintering process, the raw materials are dry-crushed and blended to the desired alumina content, placed in a preheater to form pellets, and sintered at about 2,400-2,600 degrees Fahrenheit in a bottleneck-type rotary kiln. In the fusion process, the raw material is blended together by melting it into pellets in a furnace rather than by using a preheater and rotary kiln arrangement. Id. at I-9 and I-10.

[21] Report at I-7.

2. Whether other non-clinker flux agents are like CA flux

We have examined whether non-clinker flux agents such as slag should be included in the like product defined as CA flux.[22] The non-clinker flux agents are physically different from CA flux. While the chemical composition of non-clinker flux agents may include more than 35 percent alumina,[23] there is no upper alumina limit.[24] More importantly, the chemical composition of the non-clinker fluxes varies depending on the products from which they are derived. These non-clinker flux agents retain traces of the original metals, i.e., impurities, which limit their interchangeability with CA flux. These non-clinker flux agents cannot be used as a flux agent in the production of

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[22] While the scope of investigation specifically is defined as CA cement and cement clinker which contains by weight more than 32 percent but less than 65 percent alumina and more than one percent each of iron and silica, respondent argued that the like product should be expanded to include non-clinker flux agents. Respondent's Postconference Brief at 20. The Commission may define the like product to be broader than the class of articles identified as subject to Commerce's determination, if the facts so warrant. See, e.g., Certain Electric Fans from the People's Republic of China, Inv. No. 731-TA-473 (Final), USITC Pub. 2461 at 8 (December 1991)("Even if there is a domestic product identical to the imports subject to investigation, the Commission may find the like product to be broader than that identical product." (footnote omitted)); see also, Polyethylene Terephthalate Film, Sheet, and Strip from Japan and the Republic of Korea ("PET Film"), Inv. Nos. 731-TA-458 and 459 (Final), USITC Pub. 2383 at 8, 15 and 16 (May 1991); Generic Cephalexin Capsules from Canada, Inv. No. 731-TA-423 (Final), USITC 2211 (August 1989). Compare Nepheline Syenite from Canada, Inv. No. 731-TA-525 (Final), USITC Pub. 2502 at 10 (April 1992). Cf. Torrington v. United States, 747 F. Supp. 744 (Ct. Int'l Trade 1990), aff'd 938 F.2d 1278 (Fed. Cir. 1991)(Commission's like product determination need not be coextensive with Commerce's class or kind determination.)

[23] Respondent's Postconference Brief, Appendix 2 at 13.

[24] Petitioner maintained that "CA slags usually must be blended with other materials, including alumina or calcium, before they can be used as flux in steel production." Petitioner's Postconference Brief at 20. Petitioner stated that "[o]rdinary CA clinker sold as flux contains from 42 to 50 percent of alumina by weight, from 42 to 51 percent calcium oxide by weight, from one to two percent iron oxide by weight, and from one to five percent silica by weight." Petitioner's Postconference Brief at 21.

some specialty steels because the impurities would contaminate the steel. CA flux does not have such impurities. Nevertheless, there are some applications where CA slag is interchangeable with CA flux.[25]

The production processes for CA flux and non-clinker flux agents are entirely different. CA flux is manufactured in the same manner as CA cement clinker using a sinter or fusion process.[26] The range of methods of production of non-clinker fluxes varies according to whether they are generated as a co-product or by-product of other operations.[27] [28] For example, non-clinker fluxes are by-products of the production of vanadium or calcium metal or are recovered from slag piles and catalytic converters obtained from automobile scrap.[29] Production employees that produce non-clinker flux agents as a co-product or by-product, or through slag or catalytic recovery, have no involvement in CA flux production.[30] While CA flux is distributed through one distributor for the domestic product and several distributors for imports, non-clinker flux agents are distributed through a wide range of channels depending on the source of the flux agent. Further, many steel industry users of flux generate their own flux agent as a by-product of the production of

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[25] Petitioner's Postconference Brief at 20. "Petitioner estimates that CA clinker sold by Petitioner and Lafarge accounted for over [a majority] . . . of the 'market' for calcium aluminates used as flux by the steel industry in 1992." Id.

[26] Report at I-9 - I-10.

[27] Respondent's Postconference Brief at 20.

[28] We note that when the Commission previously has considered the issue of by-products or co-products, the primary product has been the subject of the investigation. See e.g., New Steel Rails from Canada, Inv. Nos. 731-TA-297 (Final), USITC Pub. 2217 at 6-10 (September 1989). In this case, none of the by-products or co-products result from the production of CA cement and cement clinker.

[29] Respondent's Postconference Brief, Appendix 2 at 14.

[30] Respondent's Postconference Brief at 20 and 21.

steel.

Based on the foregoing analysis, we determine not to include non-clinker flux agents in the CA flux like product.

3. Whether CA cement clinker (not including CA flux) and CA cement constitute one like product

In past cement and cement clinker investigations, the Commission has found cement and cement clinker to be a single like product.[31] Both the petitioner and respondent agreed that CA cement and cement clinker constitute a single like product.[32] We find no evidence in the record in this preliminary investigation of any significant differences between the production and grinding processes of CA cement and Portland cement that would suggest a different conclusion is either necessary or appropriate.[33] Therefore, we conclude that CA cement clinker and CA cement constitute one

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[31] See Gray Portland Cement and Clinker from Mexico, Inv. No. 731-TA-451 (Final), USITC Pub. 2305 at 4 (August 1990); Gray Portland Cement and Cement Clinker from Japan, Inv. No. 731-TA-461 (Final), USITC Pub. 2376 at 13 (April 1991); Gray Portland Cement and Cement Clinker from Venezuela, Inv. No. 731-TA-519 (Preliminary), USITC Pub. 2400 at 4 (July 1991).

[32] In analyzing whether a semifinished product should be included in the same like product with the finished product, the Commission typically examines five factors, including: 1) the necessity for, and costs of, further processing; 2) the degree of interchangeability of articles at different stages of production; 3) whether the article at an earlier stage of production is dedicated to use in the finished article; 4) whether there are significant independent uses or markets for the finished and unfinished articles; and 5) whether the article at an earlier stage of production embodies or imparts to the finished article an essential characteristic or function. See, e.g., Gray Portland Cement and Cement Clinker from Mexico, Inv. No. 731-TA-451 (Preliminary), USITC Pub. 2235 at 4, n. 7 (November 1989); DRAMs Of One Megabit and Above From the Republic of Korea, Inv. No. 731-TA-556 (Preliminary), USITC Pub. 2519 at 6 and 7 (June 1992)(semifinished product analysis used to determine whether assembled and unassembled DRAMs should be included in same like product).

[33] There is one difference reported in the grinding process of CA cement; unlike Portland cements, no additives (gypsum) are included in the grinding process to alter the chemistry. Report at I-10.

like product.

4. **Whether white, high purity CA cement and clinker is like CA cement and clinker so as to be included in the CA cement like product**

Finally, we examine whether white, high purity CA cement and cement clinker, which are specifically excluded from the scope of investigation, should, nevertheless, be included in the CA cement and clinker like product.[34] The physical characteristics and chemical composition of ordinary and white CA cement and cement clinker are different. The alumina content for ordinary CA cement ranges from 32 to 65 percent, whereas for white CA cement it ranges from 65 to 80 percent.[35] The calcium content for ordinary CA cement is 26 to 42 percent compared to 9 to 28 percent for white CA cement.[36] In addition, ordinary CA cement contains more impurities; its iron content ranges from 1 to 16 percent and silica content ranges from 1 to 9 percent compared to white CA cement's 0.05 to 0.63 percent for iron and 0.20 to 0.50 percent for silica.[37] Ordinary CA cement is tan, gray or black in color due to the amount of oxygen

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[34] Respondent argued that the distinction between ordinary CA cement and white, high purity cement is an artificial one, and that white, high purity cement should be included in the CA cement like product. Report at I-6.

Petitioner urged the Commission to follow its definition of like product in the gray portland cement cases, in which white, nonstaining, portland cement was excluded from the like product.

However, it appears that the Commission never addressed the issue of inclusion of white portland cement in the like product in those cases because inclusion never was raised as an issue. As the CIT has held, the Commission's determination in each case "must be based on the particular record at issue, including the argument raised by the parties." Asocoflores, 693 F. Supp. at 1169, n.5; Citrosuco Paulista, S.A. v. United States, 704 F. Supp. 1075, 1087-88 (Ct. Int'l Trade 1988) (affirming different like product determinations from earlier cases involving same imports, based on new evidence and argument).

[35] Report, Table 2 at I-8.

[36] Report, Table 2 at I-8.

[37] Report, Table 2 at I-8.

in the kiln during the burning stage and due to its higher iron and silica content.[38] High purity CA cement always is white.[39] White CA cement is ground finer than ordinary CA cement.

These differences in physical characteristics and chemical composition affect the end uses for ordinary and white CA cement. While both cements are used in the refractory industry, white CA cement is rarely used in non-refractory (i.e., construction) applications. The higher alumina content of white CA cement provides it substantial "early strength" and greater fired strength (i.e., it retains useful working strength at significantly higher temperatures) than ordinary CA cement.[40] For example, steel making procedures often require refractories to withstand temperatures in the 3,200 to 3,300 degrees Fahrenheit range, which means only white CA cement can be used. The impurities in ordinary CA cement also limit its application in certain uses where contamination in the manufacturing process is an issue (i.e., the manufacture of precious alloy metals). Conversely, the working time for white CA cement is shorter and limits its use for certain applications. Therefore, it would not be possible to substitute ordinary CA cement for white CA cement, nor white CA cement for ordinary CA cement, in all uses.[41]

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[38] Report at I-7.

[39] Petitioner's Postconference Brief at 7. Petitioner maintained that the "white color signifies to customers the extremely low iron and silica content of the high purity CA cement. Id.

[40] Petitioner's Postconference Brief at 7. Petitioner maintained that white CA cement can be used at temperatures in excess of 3,000 degrees Fahrenheit, but ordinary CA cement melts before 3,000 degrees F. Id.

[41] Petitioner maintained that the significant price difference would preclude the use of white CA cement for ordinary CA cement. Petitioner's Postconference Brief at 9. Respondent provided one example of one end-user who switched from "ordinary" to white CA cement for use in a refractory application. Respondent's Postconference Brief at 9 and at Exhibit 1.

(continued...)

There is disagreement between the parties regarding whether producers and customers perceive these products as different.[42] However, a U.S. producer of white CA cement has stated that "high purity CA cement is a separate product from the CA cement subject to investigation . . . high purity CA cements do not compete against ordinary CA cements."[43]

There are no common manufacturing facilities. Petitioner does not produce white CA cement or cement clinker. Respondent produces both products but not at the same facility -- white CA cement is produced in one facility in France and at the Chesapeake, Virginia, plant whereas ordinary CA cement is produced at a different facility in France and is only ground at the Chesapeake plant. Respondent contended that it can grind both ordinary and white CA cement at the same facilities, although it conceded that it has never done so.[44] Indeed, respondent indicated that separate grinding equipment is dedicated to the manufacture of either white or ordinary CA cement from clinker at the Chesapeake plant.[45] The only other U.S. producer of white CA cement and cement clinker does not produce ordinary CA cement or CA cement clinker.

The sintering production process for manufacturing both types of clinker and the grinding operation for processing both types of cement are the same. However, white CA cement cannot be produced using the fusion process.

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[41](...continued)
Whether such interchangeability is widespread or frequent is not known, however.

[42] Respondent contended that "[t]hese two categories are not recognized in the industry. . . ." Respondent's Postconference Brief at 7.

[43] Petitioner's Postconference Brief at 6 and Exhibit 2.

[44] Tr. at 101, 111-113,

[45] Tr. at 111.

Petitioner maintains that smaller kilns and more precise chemical processing are required to produce white CA cement[46] and that the finishing mills, specifically the types of liners to avoid contamination, are different.[47]

While ordinary CA cement is sold in bulk and bag form, white CA cement is sold only in bag form. It is not clear whether these products have similar channels of distribution. Further, in this preliminary investigation, we do not have pricing data on white CA cement so as to compare the prices of the two products.

In this preliminary investigation, we do not find evidence of a continuum of grades of aluminous cement sufficient to justify including white, high purity CA cement in the like product.[48] The significance of the different levels of alumina in so-called "ordinary" and "high purity" CA cement appears to be important in terms of the different products' end-uses, interchangeability and price. Based on the information before us in this record, therefore, we conclude that white, high purity CA cement and cement clinker are not like CA cement and clinker containing less than 65 percent alumina. In view of the questions raised by respondents concerning the degree of interchangeability between the various CA cements, however, we will seek more information on this issue in any final investigation.

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[46] Petitioner's Postconference Brief at 12.

[47] Petitioner's Postconference Brief at 12 and 13.

[48] Respondent argued that the different CA cement products that contain less than 65 percent alumina and more than 65 percent alumina constitute a "continuum" of grades of aluminous cement. Respondent cited to prior Commission investigations in which the Commission has included several grades of chemical products within a single like product. Respondent's Postconference Brief at 15.

III. DOMESTIC INDUSTRY AND RELATED PARTIES

A. Domestic Producers

As noted previously, the domestic industry consists of the "domestic producers" of a "like product."[49] In light of our like product determination, there are two domestic industries in this investigation, one comprised of the domestic producers of CA cement and cement clinker and the other comprised of the domestic producers of CA flux. The identification of who is a "domestic producer" is subject to dispute among the parties.[50]

The principal question in defining the domestic industry is whether the domestic operations of respondent's U.S. subsidiary, Lafarge CA, are sufficient for it to be considered a member of either domestic industry. 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.[51]

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[49] 19 U.S.C. § 1677(4)(A).

[50] Petitioner asserted that Lafarge's U.S. subsidiary, Lafarge CA, is not a domestic producer because it does not produce CA cement clinker in the United States; it merely grinds imported CA cement clinker into CA cement. Petitioner's Postconference Brief at 25. Conversely, Lafarge asserted that it produces white, high purity CA clinker -- which it argued should be included in the like product -- in the United States and urged the Commission to consider its domestic subsidiary a domestic producer. Respondent's Postconference Brief at 5; Tr. at 54 and 103.

[51] Specifically, in resolving that issue, the Commission has examined six factors: (1) the source and extent of the firm's capital investment; (2) the technical expertise involved in U.S. production activities; (3) the value added to the product in the United States; (4) employment levels; (5) quantity and type of parts sourced in the United States; and (6) any other costs and activities in the United States directly leading to production of the like product. See, e.g., Certain Carbon Steel Butt-Weld Pipe Fittings from China and Thailand ("Butt-Weld Pipe Fittings"), Inv. Nos. 731-TA-520 and 521 (Final), USITC Pub. 2527 at 6, n.16 (June 1992); Gray Portland Cement and Cement Clinker from Mexico, Inv. No. 731-TA-451 (Preliminary), USITC Pub. 2235 at 4, n.7 (Nov. 1989).

Respondent's U.S. subsidiary does not produce either ordinary CA cement clinker or CA flux. However, respondent's imports of CA cement clinker are ground to produce CA cement at its U.S. subsidiary.[52] According to respondent, some of its imports of CA flux are processed further, i.e., screened and crushed to size specifications, at the Chesapeake, Virginia, plant to meet customer requirements.[53]

Lafarge's capital investment in its U.S. facility for CA cement is substantial.[54] The parties disagreed on the level of technical expertise required to grind CA cement clinker into CA cement.[55] Lafarge's U.S. employment levels for production of CA cement constitute a moderate share of total U.S. employment in the production of CA cement clinker and CA cement.[56] The value-added or conversion costs for the grinding operations are a significant percent of the total processing cost of the finished cement.[57]

In previous investigations of cement and cement clinker imports, the

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[52] Since we do not include white, high purity CA cement and cement clinker in the like product, we have not considered Lafarge's U.S. production of white, high purity CA cement and cement clinker in determining whether it is a domestic producer of the CA cement and cement clinker like product.

[53] Respondent's Postconference Brief, Appendix 2 at 7.

[54] See Report, Table 14 at 21; Respondent's Postconference Brief, Appendix 2 at 9.

[55] Respondent maintained that the same level of expertise is required for production of clinker and grinding operations, whereas petitioner contended that the clinker production requires a higher level of expertise. Respondent's Postconference Brief, Appendix 2 at 11; Petitioner's Postconference Brief, Exhibit 1 at 3 and 4.

[56] Report, Table 10 at I-17.

[57] Report at I-20. Petitioner argued that the grinding operation accounts for 10 to 17 percent of the total cost of producing CA cement. Petitioner's Postconference Brief at 26-28.

Respondent maintained that the grinding operations represent a substantial percentage of the total processing cost of finished cement. Respondent's Postconference Brief, Appendix 2 at 8.

Commission has considered grinding only operations to be domestic producers.[58] Based on the foregoing discussion and the information in the record of this preliminary investigation, specifically, the substantial capital investment in the United States and the value added, we find that respondent's U.S. subsidiary is a domestic producer of the CA cement and cement clinker like product.

The record indicates that crushing does not add significant value to the CA flux which Lafarge CA imports from France.[59] We therefore determine that Lafarge CA is not a U.S. producer of CA flux.[60]

B. Related Parties

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 in appropriate circumstances.[61] Application of the related parties provision is within the Commission's discretion based upon the facts presented in each case.[62]

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[58] See Gray Portland Cement and Clinker from Mexico, Inv. No. 731-TA-451 (Preliminary), USITC Pub. 2235 at 17 and 18 (November 1989)(Commission concluded that grinding operations should be included in regional industry on the basis that "if the like product includes cement, the grinding and blending of clinker to produce cement constitutes domestic production"); Gray Portland Cement and Cement Clinker from Japan, Inv. No. 731-TA-461 (Final), USITC Pub. 2376 (April 1991); Gray Portland Cement and Cement Clinker from Venezuela, Inv. No. 731-TA-519 (Preliminary), USITC Pub. 2400 at 12, n. 32 (July 1991).

[59] Respondent's Postconference Brief, Appendix 2 at 7; Report, Table E-7 at E-6.

[60] For all the reasons discussed below in the related party section, we would exclude Lafarge CA from the domestic CA flux industry, even if we concluded that they were a U.S. producer.

[61] 19 U.S.C. § 1677(4)(B).

[62] Torrington v. United States, Slip. Op. 92-49 at 12 (Ct. Int'l Trade April 3, 1992); Empire Plow Co. v. United States, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987).

Respondent's U.S. subsidiary, Lafarge CA in Chesapeake, Virginia, is 100 percent owned by respondent, Lafarge Fondu International. Furthermore, Lafarge CA imports virtually all of the subject imports.[63] Therefore, we find that respondent's U.S. subsidiary is a related party.

If a company qualifies as 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.[64] The purpose of excluding related parties is to minimize any distortion in the aggregate data bearing on the condition of the domestic industry that might result from including related parties whose operations are shielded from the adverse effects of the subject imports.[65] While the statute itself does not define what "appropriate circumstances" are, Congress has provided the following guidance on when "appropriate circumstances" exist:

> The ITC is given discretion not to include within the domestic industry those domestic producers of the like product which are either related to exporters or importers of the imported product being investigated, or which import that product. Thus, for example, where a U.S. producer is related to a foreign exporter and the foreign exporter directs his exports to the United States so as not to compete with his related U.S. producer, this should be a case where the ITC would not consider the related U.S. producer to be a part of the domestic industry (emphasis added).[66]

Further, the Court of International Trade has approved the Commission's exclusion of a related party in situations where the producer is related to

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[63] Report at I-14.

[64] See, e.g., Empire Plow Co., 675 F. Supp. at 1353 (Ct. Int'l Trade 1987); Digital Readout Systems and Subassemblies Thereof from Japan, Inv. No. 731-TA-390 (Final), USITC Pub. 2150 at 15 (January 1989).

[65] See e.g., Torrington v. United States, Slip Op. 92-49 at 10 and 11 (Ct. Int'l Trade 1992).

[66] S. Rep. No. 249, 96th Cong., 1st Sess. 83 (1979).

the foreign exporter, appears to have benefited from the consistently lower prices of the dumped imports, and where the exporter appears to have been directing its exports in such a manner so as not to compete with its related U.S. importer/producer.[67]

The primary factors we examine in deciding whether appropriate circumstances exist to exclude a related party 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-a-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.[68]

The Commission also has considered whether each company's books are kept separately from its "relations" and whether the primary interests of the related producer lies in domestic production or in importation.[69]

During the period of investigation, Lafarge CA accounted for a significant percentage by quantity of U.S. CA cement production.[70] All of Lafarge CA's production of CA cement was from imported CA cement clinker.

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[67] See Sandvik AB v. United States, 721 F. Supp. 1322, 1331 (CIT 1989), aff'd, 904 F. 2d 46 (Fed. Cir. 1990); Empire Plow Co. v. United States, 675 F. Supp. 1348, 1353-54 (Ct. Int'l Trade 1987)(An analysis of "[b]enefits accrued from the relationship" as a major factor in deciding whether to exclude a related party held to be "a reasonable approach in light of the legislative history . . . .").

[68] See, e.g., Torrington Co., Slip Op. 92-49 at 10 and 11 (Ct. Int'l Trade April 3, 1992)(Court upheld the Commission's practice of examining these factors in determining that appropriate circumstances did not exist to exclude related party).

[69] See, e.g., PET Film, USITC Pub. 2383 at 17-18 (May 1991); Rock Salt from Canada, Inv. No. 731-TA-239 (Final), USITC Pub. 1798 at 12 (January 1986).

[70] Report, Table 5 at I-15.

Lafarge CA's U.S. production of CA cement does not compete with any imports since its parent, Lafarge Fondu International only exports CA cement clinker and CA flux. This fact suggests that the related party's U.S. production is shielded from competition from CA cement imports by its parent company's decision to export only clinker. Indeed, Lafarge CA's production of CA cement from imported allegedly dumped clinker benefits from the alleged dumping. We therefore find appropriate circumstances for the exclusion of respondent's U.S. subsidiary exist, and we exclude it from the domestic industry producing CA cement and clinker.

IV. CONDITION OF THE DOMESTIC INDUSTRY[71]

In assessing whether there is a reasonable indication of material injury to a domestic industry by reason of allegedly dumped imports, the Commission is instructed to consider "all relevant economic factors which have a bearing on the state of the industry in the United States . . . ."[72] These include production, shipments, inventories, capacity utilization, market share, employment, wages, productivity, financial performance, ability to raise capital, and research and development.[73] 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

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[71] The Commission does not have complete financial data concerning domestic production of CA flux, and, therefore, considered a product line analysis under 19 U.S.C. § 1677(4)(D). The "narrowest group or range of products which includes the like product" CA flux is, in this investigation, CA cement and clinker. We will seek separate financial data in any final investigation.

[72] 19 U.S.C. § 1677(7)(C)(iii).

[73] 19 U.S.C. § 1677(7)(C)(iii).

industry."[74]

Apparent U.S. consumption of CA cement by quantity declined modestly between 1990 and 1992, and experienced a slightly greater decrease from interim (January-March) 1992 to interim 1993.[75] [76] Apparent U.S. consumption of CA cement by value fluctuated with a slight decline from 1990 to 1992, and a greater decrease between interim 1992 and interim 1993.

The trend for apparent U.S. consumption of CA flux was very different. Apparent U.S. consumption of CA flux by quantity fluctuated with a substantial increase between 1990 and 1992, and a significantly more modest increase between interim period 1992 and interim period 1993.[77]

The record reveals overall declines from 1990 to 1992 in most quantity and value indicators relevant to the condition of the CA cement and cement

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[74] 19 U.S.C. § 1677(7)(C)(iii). No argument addressing the business cycle was raised by any of the parties to this investigation. Nor did the Commission receive any information relevant to such considerations. Petitioner alleged that "there are several factors distinctive to the ordinary CA cement industry that increased its vulnerability to dumped imports" and contended that the Commission should consider this industry within the context of these distinctive conditions of competition. Petitioner's Postconference Brief at 32. We reviewed petitioner's factors and determined that they were not conditions of competition distinctive of production of CA cement and clinker or CA flux, but rather are distinctive of any industry comprised of a single domestic producer.

[75] Data referred to in this paragraph are summarized in Report, Table 4, at I-12, unless otherwise noted. We are careful about drawing any conclusions about the full year based on the interim data in this investigation. The interim data cover only one calendar quarter. Moreover, the quarterly and annual data for 1992 appear to provide a very different picture of the domestic industries' financial performance.

[76] In any final investigation, we will seek consumption information which provides a breakdown by end-use (i.e., refractory and construction industries) of CA cement.

[77] Report at I-27.

clinker industry.[78] Domestic production of CA cement by quantity decreased substantially from 1990 to 1992, with a moderate decline reported from interim 1992 to interim 1993.[79] Domestic production of CA flux fluctuated, but overall, production was relatively constant from 1990 to 1992.[80] Between the interim periods, domestic production of CA flux declined moderately.[81]

Capacity to produce CA cement and cement clinker, including CA flux, remained constant from 1990 to 1992 and between interim periods.[82] The lower domestic production rates and constant production capacity resulted in a decline in capacity utilization for the CA cement and cement clinker industry from 1990 to 1992, and between interim periods. Overall capacity utilization rates were relatively low for the domestic CA cement and cement clinker industry over the period of investigation.

The domestic industry's U.S. shipments of CA cement by quantity and value decreased significantly from 1990 to 1992.[83] Those shipments declined substantially more than apparent U.S. consumption did during that period. The domestic industry reported more modest decreases in U.S. shipments of CA cement by quantity and by value between the interim periods. Export shipments accounted for a modest but growing share of the domestic industry's shipments of CA cement from 1990 to 1992, with a substantial increase reported between

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[78] We note that domestic CA cement clinker figures in the Report include clinker consumed internally in the production of CA cement and clinker used as CA flux.

[79] Report, Table 5 at I-15.

[80] Report, Table 5 at I-15, n.3.

[81] Report, Table 5 at I-15, n.3.

[82] Data referred to in this paragraph are summarized in Report, Table 5 at I-15, unless otherwise noted.

[83] Data referred to in this paragraph are summarized in Report, Table 6 at I-16, unless otherwise noted.

the interim periods.

The domestic industry's shipments of CA flux remained relatively constant from 1990 to 1991, but experienced a moderate decline from 1991 to 1992, in sharp contrast to the dramatic increase in apparent U.S. consumption.[84] Between interim periods, the domestic CA flux industry reported a sharp decline in U.S. shipments by quantity.[85]

The domestic industry reported large year-end inventories of CA cement for the 1990-1992 period.[86] Inventories as a share of production increased during that period. Between the interim periods, inventory levels as a share of production increased significantly to the highest level reported during the period of investigation.[87]

Employment in the domestic CA cement and cement clinker industry decreased moderately from 1990 to 1991 and remained constant for the rest of the period of investigation.[88] Hours worked declined moderately from 1990 to 1991 and remained constant for the rest of the period. Total compensation declined substantially between 1990 and 1991, but rose moderately from 1991 to 1992, for an overall moderate decline. Between interim periods, employment, hours worked, and total compensation remained relatively constant. Productivity also declined between 1990 and 1992, and between interim 1992 and interim 1993.

Most financial performance indicators for the domestic CA cement and

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[84] Report at I-27.

[85] Report at I-27.

[86] Report, Table 9 at I-17.

[87] Report, Table 9 at I-17.

[88] Data referred to in this paragraph are summarized in Report, Table 10 at I-17, unless otherwise noted.

cement clinker industry showed declines from 1990 to 1992 and between interim periods. The CA cement and cement clinker industry experienced a moderate decline in net sales from 1990 to 1992.[89] Operating and net income, while positive for each year during the period 1990-1992, dropped sharply over the period of investigation. Between interim 1992 and 1993, the trend of sharp declines in operating and net income continued.

The cost of goods sold for the domestic CA cement and cement clinker industry decreased moderately from 1990 to 1992, with a modest increase between interim periods.[90] Selling, general, and administrative expenses also declined moderately over the period of investigation with a modest increase reported between interim periods.

Research and development expenditures for the domestic CA cement and cement clinker industry were not reported for the period of investigation.[91] Finally, the domestic industry's capital expenditures declined sharply during the period 1990 to 1992, with a similar decline between the interim periods.[92] [93]

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[89] Data referred to in this paragraph are summarized in Report at Table 11, I-18, unless otherwise noted.

[90] Data referred to in this paragraph are summarized in Report at Table 11, I-18, unless otherwise noted.

[91] Report at I-22.

[92] Report at I-22.

[93] Based on the declining financial performance and declines in net sales and shipments, Chairman Newquist and Commissioner Rohr conclude that there is a reasonable indication that the domestic CA cement and clinker and CA flux industries are currently experiencing material injury.

V. REASONABLE INDICATION OF MATERIAL INJURY BY REASON OF ALLEGEDLY LTFV IMPORTS

A. Legal Standard

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

> (I) the volume of imports of the merchandise which is the subject of the investigation,
>
> (II) the effect of imports of that merchandise on prices in the United States for like products, and
>
> (III) the impact of imports of such merchandise on domestic producers of like products, but only in the context of production operations within the United States . . . .[94]

In making its determination, the Commission may consider "such other economic factors as are relevant to the determination . . . ."[95] Although we may consider information that indicates that injury to the industry is caused by factors other than the allegedly LTFV imports, we do not weigh causes.[96] [97] [98] For the reasons discussed below, we find that there is a

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[94] 19 U.S.C. § 1677(7)(B)(i).

[95] 19 U.S.C. § 1677(7)(B)(ii).

[96] Chairman Newquist, Commissioner Rohr, and Commissioner Nuzum further note that the Commission need not determine that imports are "the principal, a substantial or a significant cause of material injury." S. Rep. No. 249, 96th Cong., 1st Sess. 57 and 74 (1979). Rather, a finding that imports are a cause of material injury is sufficient. E.g., Metallverken Nederland, B.V. v. United States, 728 F. Supp. 730, 741 (Ct. Int'l Trade 1989); Citrosuco Paulista S.A. v. United States, 704 F. Supp. 1075, 1101 (Ct. Int'l Trade 1988).

[97] Vice Chairman Watson notes that the courts have interpreted the statutory requirement that the Commission consider whether there is material injury "by reason of" the subject imports in a number of different ways. Compare, e.g., United Engineering & Forging v. United States, 779 F. Supp. 1375, 1391 (Ct. Int'l Trade 1991) ("rather it must determine whether unfairly-traded imports are contributing to such injury to the domestic industry. Such imports, therefore need not be the only cause of harm to the domestic industry."

(continued...)

reasonable indication that the domestic CA cement and clinker and the domestic CA flux industries are materially injured by reason of allegedly LTFV imports from France.

The volume of subject imports of CA cement clinker[99] is significant despite certain fluctuations in quantity and market share during the period of

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[97](...continued)
(citations omitted)) with Metallverken Nederland B.V. v. United States, 728 F. Supp. 730, 741 (Ct. Int'l Trade 1989) (affirming a determination by two Commissioners that "the imports were a cause of material injury") and USX Corporation v. United States, 682 F. Supp. 60, 67 (Ct. Int'l Trade 1988) ("any causation analysis must have at its core, the issue of whether the imports at issue cause, in a non de minimis manner, the material injury to the industry. . .").

Accordingly, Vice Chairman Watson has 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 75.

[98] Commissioner Crawford and Commissioner Brunsdale note that the statute requires that the Commission determine whether a domestic industry is "materially injured by reason of" the allegedly LTFV imports. They find 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. It is assumed in the legislative history that the "ITC will consider information which indicates that harm is caused by factors other than the less-than-fair-value imports." S. Rep. No. 249 at 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 at 47. The Commission is not to determine if the allegedly LTFV imports are "the principal, a substantial or a significant cause of material injury." S. Rep. No. 249 at 74. Rather, it is to determine whether any injury "by reason of" the allegedly LTFV imports is material. That is, the Commission must determine if the subject imports are causing material injury to the domestic industry. "When determining the effect of imports on the domestic industry, the Commission must consider all relevant factors that can demonstrate if unfairly traded imports are materially injuring the domestic industry." S. Rep. No. 71, 100th Cong., 1st Sess. 116 (1987) (emphasis supplied).

[99] Virtually no CA cement is imported from France.

investigation.[100] The share of apparent U.S. consumption by quantity accounted for by subject imports increased significantly throughout the period of investigation.[101] We find the increasing share of domestic consumption accounted for by the subject imports to be significant and an important factor in our preliminary affirmative determination.[102]

As with CA cement clinker, the volume of subject imports of CA flux also is significant, although here too there were some fluctuations in quantity, value and market share during the period of investigation.[103] In particular, the already significant volume of imports of CA flux in 1990 almost doubled over the period of investigation.[104] The share of apparent U.S. consumption by quantity and by value accounted for by CA flux imports increased significantly during the period of investigation, and between interim periods.[105] We find the growing share of domestic consumption accounted for by the subject imports of CA flux to be significant and an important factor in our preliminary affirmative determination.

The Commission requested pricing information from U.S. producers and

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100 Report, Table 17 at I-27, and Table 19 at I-28.

101 Report, Table 19 at I-28.

102 We note that respondents alleged that this increase was largely due to new markets which they have created for CA cement rather than to competition with petitioner in petitioner's markets. There is insufficient evidence on the record in this preliminary investigation to support these allegations. The Commission will gather additional data on this allegation should this matter return to the Commission for a final investigation.

103 Report, Table 17 at I-27, and at I-27.

104 Report, Table 17 at I-27, and at I-27.

105 Report at I-27; Inv. Memorandum INV-Q-077.

importers for different types[106] of CA cement and for CA flux.[107] The prices of these different types of CA cement, however, are not entirely comparable because of differences in chemical composition. Further, domestic CA cement generally is sold on an f.o.b. basis, whereas CA cement is sold by the importer on a delivered basis.[108] Prices for each type of U.S. CA cement fluctuated, with an overall increase over the period of investigation.[109] Price movements for the imported CA cement product roughly paralleled trends in domestic prices during most of the period of investigation.[110] Prices for domestic CA flux remained constant over the period of investigation.[111] Prices for imported CA flux overall increased slightly on an f.o.b. basis, but overall decreased slightly on a delivered basis.[112] Further, a direct price comparison of the domestic and imported CA flux is not appropriate since the reported prices are for subject products at different levels of distribution.[113]

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[106] Prices were requested for two types of domestic CA cement -- Lumnite and Refcon -- and for three corresponding types of CA cement produced by respondent's U.S. subsidiary -- Fondu, Secar 41, and Secar 51.

[107] We note that there is no direct competition between the imported and domestically-produced CA cement clinker because cement clinker must go through some domestic production activities before being sold in competition with a domestic product. As a result there can be no direct price comparisons and the indirect price comparisons which can be made (i.e. finished product to finished product) are less useful in establishing the causal nexus required by title VII. See also Chung Ling Co. v. United States, Slip Op. 90-10-00528 (July 28, 1992)("[i]t is critical to fair price comparisons that they be made at the level of actual competition in the U.S. market.")

[108] Report at I-32.

[109] Report at I-31 and Appendix E Tables.

[110] Report at I-31 and I-32, and Appendix E Tables.

[111] Report at I-31 and Table E-7 at E-6.

[112] Report at I-31 and Table E-7 at E-6.

[113] Report at I-32.

We find the differences in domestic and subject import pricing data, as noted above, render the data deficient and, therefore, price depression, suppression or underselling analysis inconclusive. However, based on the entire record before us, we cannot conclude that there is no likelihood that evidence establishing significant price depression, suppression, or underselling will arise in any final investigation.

In addition, we have considered the impact of subject imports on the domestic industries producing CA cement and clinker and CA flux. In this case, we find that there is a reasonable indication that the significant volume and growing market share held by subject imports from France have had a significant adverse impact on the domestic industry. The record indicates that domestic and subject import CA cement and CA flux are likely substitutable to some degree.[114] A further suggestion that there is a reasonable indication the domestic industries producing CA cement and cement clinker and CA flux are being materially injured by reason of subject imports is found in the significant declines in the domestic industries' shipments and profitability at the same time that there were significant increases in the volume and market share of respondents' CA cement and even more significant increases in the volume and market share of respondents' CA flux.[115]

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[114] Report at I-7.

[115] We note that two supplemental factors provide support for this suggestion. First, the financial information suggests that the decline in the domestic industry's performance is, to a significant degree, related to declines in volume of sales. Second, this is a two company market and the allegations of the importer that its increases are due to the development of new markets are unsubstantiated. As such we conclude there is a reasonable indication that the decline in the domestic industries' volumes are in part due to increases in the imports, reflected in the changes in market share.

CONCLUSION

We therefore determine that the information of record in this preliminary investigation, particularly the significant volume of imports, the significant and increasing share of apparent U.S. consumption held by CA cement and CA flux from France, and the declining condition of the domestic industries, establish a reasonable indication that the domestic industries producing CA cement and clinker and CA flux are materially injured by reason of the subject imports from France.[116]

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[116] Another factor considered by Commissioner Brunsdale is the magnitude of the dumping margin, which provides information on how much below a fair level the import price is. The greater the difference between the actual price of the imports and the fair price level, the more likely it is that the domestic industry is being materially injured by unfair imports. In this preliminary investigation, the alleged dumping margins range from 41.23 percent to 198.10 percent (Report at I-10). While the alleged margins are little more than petitioner's claims, they are the best information currently available concerning the level of the dumping and suggest that the price of CA cement produced from imported clinker and the price of imported CA flux may be substantially below fair levels.

INFORMATION OBTAINED IN THE INVESTIGATION

INTRODUCTION

On March 31, 1993, counsel for Lehigh Portland Cement Company (Lehigh), Allentown, PA, filed petitions with the United States International Trade Commission (Commission) and the United States Department of Commerce (Commerce) alleging that an industry in the United States is materially injured and threatened with further material injury by reason of imports from France of certain calcium aluminate cement and cement clinker (hereinafter CA cement and cement clinker), provided for in subheadings 2523.10.00 and 2523.30.00 of the Harmonized Tariff Schedule of the United States (HTS), that are alleged to be sold in the United States at less than fair value (LTFV). Accordingly, effective March 31, 1993, the Commission instituted investigation No. 731-TA-645 (Preliminary) under section 733(a) of the Tariff Act of 1930 (19 U.S.C. § 1673b(a)) to determine whether there is a reasonable indication that 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 the public conference to be held in connection therewith, was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the Federal Register on April 8, 1993 (58 F.R. 18227).[1] The Commission must complete preliminary antidumping investigations in 45 days, or in this case by May 17, 1993.

PREVIOUS COMMISSION INVESTIGATIONS CONCERNING CEMENT

There have been 14 previous Commission investigations concerning cement, dating back to 1960. All but one of these have been antidumping investigations concerning portland cement, other than white, nonstaining portland cement; and the investigation in 1986, the 1989 investigation on Mexico, the 1990 investigation on Japan, and the 1991 investigation on Venezuela involved cement clinker as well. The first nine investigations were conducted under the provisions of the Antidumping Act of 1921, and the last five were conducted under the provisions of Title VII of the Tariff Act of 1930. Of the 14 completed investigations, all but the 1986 investigation were determined on the basis of a regional, rather than a national, industry. The present investigation alleges a national industry rather than a regional one. A listing of the Commission's previous investigations is presented in table 1.

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[1] Copies of relevant Federal Register notices are presented in app. A. A list of witnesses appearing the conference is presented in app. B.

Table 1
Cement and cement clinker: Previous investigations, determinations, countries subject to investigation, and geographic scope of domestic industry[1]

Year of determination	Nature of determination	Subject countries	Geographic scope of domestic industry
1960	Negative	Canada	
1961	Affirmative	Sweden	Rhode Island, Eastern Massachusetts, and Eastern Connecticut (1 market area)
1961	Affirmative	Belgium	East coast of Florida
1961	Affirmative	Portugal	Connecticut, Massachusetts, and New Jersey (1 market area)
1962	Negative	Dominican Republic	Metropolitan New York City and Puerto Rico (2 market areas)
1963	Affirmative	Dominican Republic	Metropolitan New York City
1975	Affirmative[2]	Mexico	Arizona, New Mexico, and Southwestern Texas (1 market area)
1976	Negative	Mexico	Florida and Southeastern Georgia (1 market area)
1978	Negative	Canada	"Northeast U.S. market," and the "Canadian border U.S. market"[3] (2 optional market areas)
1983	Negative	Australia, and Japan	California and Nevada (1 region)
1986	Negative	Colombia, France, Greece, Japan, Mexico, the Republic of Korea, Spain, and Venezuela	National
1989	Affirmative	Mexico	"Southern-tier region" and the "alternative Southern-tier region"[4] (2 optional market areas)

See footnotes at end of table.

Table 1--Continued
Cement and cement clinker: Previous investigations, determinations, countries subject to investigation, and geographic scope of domestic industry[1]

Year of determination	Nature of determination	Subject countries	Geographic scope of domestic industry
1990	Affirmative	Japan	"Southern California region"[5]
1991	Affirmative[6]	Venezuela	Florida

[1] Prior to the Trade Act of 1974, the statute provided for an injury analysis on the basis of a "competitive market area," thereafter a "marketing area" or "region."

[2] The Commission "does not determine that there is no reasonable indication that an industry is being or is likely to be injured, or is prevented from being established, by reason of the importation of such merchandise into the United States." Subsequent to this determination, the Department of the Treasury made a negative LTFV determination and the investigation was terminated.

[3] The "northeast U.S. market" included the States of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. The "Canadian border U.S. market" included the States of Alaska, Idaho, Illinois, Indiana, Michigan, Minnesota, Montana, North Dakota, Ohio, Oregon, Pennsylvania, South Dakota, Washington, Wisconsin, and Wyoming, but did not include those States listed in the "northeast U.S. market."

[4] The "Southern-tier region" included the States of Florida, Alabama, Mississippi, Louisiana, Texas, New Mexico, Arizona, and California in their entirety. The "alternative Southern-tier region" included the States of Florida, Texas, New Mexico, and Arizona, in their entirety, and only southern California and the coastal counties of Alabama, Mississippi, and Louisiana.

[5] The "Southern California region" included the southern portion of the State of California, as defined by the U.S. Bureau of Mines, which includes the counties of San Luis Obispo, Kern, Inyo, Mono, Santa Barbara, Ventura, Los Angeles, San Bernardino, Orange, Riverside, San Diego, and Imperial.

[6] Preliminary determinations involving antidumping and countervailing duty investigations. The Commission instituted final investigations, however, the investigations were suspended prior to making final determinations.

Source: The U.S. International Trade Commission.

THE PRESENT INVESTIGATION

In the present investigation, the petitioner has filed on behalf of a national industry, arguing that the U.S. market is served by the petitioner, which produces calcium aluminate (CA) cement and cement clinker at its plant in Gary, IN, and by the respondent, Lafarge Calcium Aluminates, Inc. (Lafarge CA), which produces CA cement at its plant in Chesapeake, VA, exclusively from CA cement clinker imported from France.

With respect to the issue of "like product," the petitioner argues that CA cement and cement clinker constitute one like product. Petitioner asserts that the production of CA cement clinker accounts for nearly 90 percent of the cost of producing CA cement and that roughly 83 percent of the capital cost of a CA cement plant is devoted to producing CA cement clinker. Moreover,

petitioner contends that the essential characteristics of CA cement, such as its binding capability and its resistance to sulfates and heat, are imparted by CA cement clinker, not by the grinding process used to transform CA cement clinker into CA cement.[2] Petitioner cites previous Commission investigations in which gray portland cement and cement clinker were determined to be one like product.[3] However, unlike gray portland cement clinker, which has no other use than to be ground into finished gray portland cement, CA cement clinker (as defined by the petitioner) can either be ground into finished CA cement or be used as a desulfurizing agent or flux in the steel industry. Moreover, CA cement clinkers used as fluxes in the steel industry have chemical compositions different from those of CA cement clinkers that are ground into finished CA cement. In fact, CA flux cannot be ground into CA cement.

Petitioner also argues that white, high-purity CA cement and clinker, which are not subject to the petition, are not like the subject CA cement and clinker. Petitioner points to differences in the factors traditionally considered by the Commission in making like product determinations. These factors include (1) physical characteristics, (2) uses, (3) interchangeability, (4) channels of distribution, (5) customer and producer perceptions, (6) common manufacturing facilities and employees, (7) production process, and (8) price.[4] Petitioner contends that the argument for the exclusion of white, high-purity CA cement is analogous to that used in the Commission's determinations that white portland cement and cement clinker were not part of the like product in its investigations concerning gray portland cement and cement clinker.[5] Respondents, however, argue that the distinction between the subject CA cement and cement clinker (so-called "ordinary" CA cement and cement clinker) and the so-called white, high-purity CA cement and cement clinker is an artificial one.[6] Respondents argue that all grades of CA cement should be considered one like product known as "calcium aluminate cement" or "aluminous cement."[7] In addition, respondents argue that what petitioner calls CA flux is not truly a clinker, nor is it referred to as such by the steel industry.[8] Respondents argue that CA flux should be defined as a separate like product from CA cement and cement clinker.[9] For a complete description of CA cement and cement clinker (including flux), see the section of the report entitled "The Product." A summary of the data collected in this investigation is presented in appendix C.

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[2] Petition, pp. 25-26.

[3] Ibid. See table 1 and Portland Hydraulic Cement and Cement Clinker from Colombia, France, Greece, Japan, Mexico, the Republic of Korea, Spain, and Venezuela, Invs. Nos. 731-TA-356 through 363 (Preliminary), USITC Pub. 1925 (December 1986); Gray Portland Cement and Cement Clinker from Mexico, Inv. No. 731-TA-451 (Final), USITC Pub. 2305 (August 1990); and Gray Portland Cement and Cement Clinker from Japan, Inv. No. 731-TA-461 (Final), USITC Pub. 2376 (April 1991).

[4] Petition, pp. 26-33.

[5] Transcript, p. 14.

[6] Ibid, p. 52.

[7] Respondents' post-conference brief, p. 7.

[8] Unless otherwise indicated, "CA cement clinker" includes both CA cement clinker for use as a flux in the steel industry (CA flux) and CA cement clinker which is ground into finished CA cement (CAC clinker).

[9] Transcript, p. 93.

THE PRODUCT

Description and Uses

The cement material covered within the scope of the petition is ordinary calcium aluminate (CA) cement and cement clinker; white, high-purity CA cement and cement clinker are specifically excluded.[10] Both ordinary CA cement and cement clinker are fungible products in that comparable imports (including those from France) and domestically produced products are readily interchangeable.

Ordinary CA cement is a specialty hydraulic,[11] nonportland cement that has a high alumina content compared with that of portland cements[12] (see table 2). The alumina imparts resistance to extreme temperatures and corrosion and is fast hardening, beneficial qualities not associated with portland cements.[13] After the first 24 hours, the compressive strength of ordinary CA cement typically exceeds that of gray portland after 28 days.[14] The raw material mixture usually consists of crude, uncalcined bauxite (as a source of alumina, iron, and silica) and limestone (as a source of calcium). The chemical composition of ordinary CA is contrasted with that of other cement materials in table 2.

Ordinary CA cement clinker 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. This type of clinker serves two functions: (1) as an intermediate material for producing ordinary CA cement ("CAC clinker"), and (2) as a desulfurizer (a kind of fluxing agent) for making steel ("CA flux"). When used as an intermediate cement material, the clinker is ground to a powder consistency; unlike portland cements, no additives are included to alter the chemistry. For use as a steel fluxing agent, ordinary CA cement clinker with a higher ratio of limestone to bauxite[15] is crushed to meet industry size requirements.[16] CA flux has different physical properties and characteristics than those of CAC clinker used for in the production of cement.[17] Because of the difference in the chemical composition requirements for the two end-use applications, ordinary CA flux cannot be used for the production of ordinary CA cement.

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[10] Petition, p. 1. Clinker is defined as a partially vitrified mass of rock material formed in a furnace, and in this case may be used as an intermediate material in the production of ordinary CA cement.

[11] "Hydraulic" refers to the capacity to harden under water.

[12] Distinguished from gray portland cement, the subject cement material of 14 antidumping investigations since 1960.

[13] The U.S. Bureau of Mines estimates that portland cements alone account 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.

[14] When tested in accordance with the American Society for Testing and Materials (ASTM) C-109-92 "Standard Test Method for Compressive Strength of Hydraulic Cement Mortars."

[15] Petition, p. 8.

[16] Particle sizes for the fluxing agent are generally not as fine as for cement.

[17] Transcript, testimony of Johnny Love, Manager of Technical Assistance, Lafarge CA.

Table 2
Comparison of cement materials: A typical range of chemical composition

(Oxide composition in percent by weight)

Chemical oxide	Ordinary CA cement	White, high-purity CA cement	All portland cements[1]
Alumina (Al_2O_3).....	32.00-65.00	65.00-80.00	3.00- 8.00
Calcium (CaO).....	26.00-42.00	9.00-28.00	60.00-67.00
Iron (Fe_2O_3).....	1.00-16.00	0.05- 0.63	0.50- 6.00
Silica (SiO_2).....	1.00- 9.00	0.20- 0.50	17.00-25.00
Magnesia (MgO).....	0.00- 1.10	0.00- 0.69	0.10- 5.00
Titanium (TiO_2.....	0.00- 1.10	0.00-Trace	.....

[1] Staff believes that all portland cements, including white, fall within the specified percentage ranges for alumina, calcium, and silica; white portland cement typically has trace amounts of iron and magnesia. ASTM standards exist for all portland cements; there are no separate standards for white versus gray. There are no ASTM standards for CA cements.

Source: Compiled from petition, pp. 8 and 27; from Norman L. Weiss, SME Mineral Processing Handbook, vol. 2 (New York: Society of Mining Engineers, American Institute of Mining, Metallurgical, and Petroleum Engineers, Inc., 1985), p. 26-5; and from F. H. Norton, Refractories, 4th ed. (New York: McGraw-Hill Book Company, 1968), p. 51.

Ordinary CA cement, like the corresponding clinker, is a tan, gray, or black powder material. Because of its special properties, ordinary CA cement is primarily an input material for binding purposes; when blended with different kinds of aggregates, water, and/or portland cements, concrete mixes with special chemical properties are formed. Ordinary CA cement is useful to the refractory and construction industries in making these special concretes.

Producers of refractory products[18] purchase ordinary CA cement for use as the binding agent in the production of castables and gunning mixes (also called refractory concretes and refractory mortars). These products are then sold to manufacturing facilities that use furnaces in the production of metals, power generation, and petrochemical and oil refining.

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. Because ordinary CA cement is about 5-6 times more expensive than gray portland cement, the two may be used together to economically impart the beneficial qualities of ordinary CA cement. A combination of the two cements is used to make quick-hardening concrete mixes; self-leveling concrete mixes; and quick-hardening, freeze-resistant mortars. Typical corrosion-resistant applications include floor sections of ordinary CA cement-bonded concretes and coatings over

[18] Refractories are materials that have the ability to maintain their physical shape and chemical identity after being subjected to extreme temperatures.

portland concrete floors in facilities employing the use of chemicals such as dairy plants, breweries, slaughter houses, bottling plants, tanneries, and sugar-processing plants. In typical temperature-resistant applications, ordinary CA cement bonded-concretes are used as floor sections or coatings to withstand the heat impact from furnace-fired materials or molten spills.

Production Process

Because the difference between ordinary CA cement clinker used for cement and that used for steel flux is the ratio of bauxite to limestone, the first step in the production process is to determine which clinker will be produced so that the ratio of raw materials may be determined. According to petitioner, if the calcium oxide content is 41 percent by weight or less, the clinker is dedicated to cement production; if the calcium oxide content is over 41 percent by weight, the clinker is dedicated to flux production.[19] That decision made, there are basically two standardized processes used to blend the raw materials for either clinker--sintering, which is used in the United States by the sole domestic producer of CA cement clinker, or fusion, which is currently used to produce the imported products. The differences between the two processes are procedural; there are no differences in chemical or physical characteristics between the end products. While the reasons for employing one process over another are not clear, particle size of the raw materials and amount of water contained in the available bauxite are thought to be decision factors.[20] For both processes, production takes place on a continuous basis, with allowances for maintenance down time. Petitioner estimates that the clinker-making phase of production accounts for almost 90 percent of production costs for ordinary CA cement, and almost 83 percent of the capital cost of an ordinary CA cement plant.

The primary raw materials for both processes are limestone (the source of calcium oxide) and crude, uncalcined bauxite (the source of alumina, iron, and silica). For the sintering process, the raw materials are dry-crushed and blended to the desired alumina content, then conveyed to a preheater where the material consistency becomes that of pellets. The pellets are conveyed into a bottleneck-type rotary kiln where sintering takes place at about 2,400-2,600 degrees Fahrenheit, forming ordinary CA cement clinker. The sintering process is basically similar to that used for making gray portland cement clinker, except the preheater and kiln are smaller and specially designed for ordinary CA cement and clinker. For example, daily kiln production capacity for ordinary CA cement 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 a more rigid chemistry control requirement.

The basic difference between the sintering and fusion processes for production of ordinary CA cement clinker is that with the fusion process the raw material is blended together by melting it into pellets in a furnace rather than by using a preheater and rotary kiln arrangement. More detailed

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[19] Petitioner's post-conference brief, p. 25.

[20] Leonard Jacob, Jr., ed., Bauxite (Proceedings of the 1984 Bauxite Symposium, Los Angeles, CA, Feb. 27-Mar. 1, 1984), (New York: Society of Mining Engineers, 1984), p. 54.

production information is not available for this preliminary investigation, because both the petitioner and respondent tend to carefully guard their production processes.

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

U.S. Tariff Treatment

U.S. imports of both ordinary CA cement and cement clinker from countries entitled to the column 1-general (most-favored-nation) duty rate, including France, enter free of duty; ordinary CA cement enters under subheading 2523.30.00[21] of the HTS and CA cement clinker under subheading 2523.10.00.[22] The column 2 rate of duty for both products is $1.32 per metric ton, including the weight of the container, and is applicable to imports from those countries and areas specified in general note 3(b) to the HTS.

THE NATURE AND EXTENT OF ALLEGED SALES AT LTFV

The petitioner has alleged that virtually all CA cement and cement clinker has entered the United States in the form of CA cement clinker and is being sold and offered for sale at LTFV. As evidence of the U.S. price of CA cement clinker, the petitioner has relied upon available information on the prices charged by Lafarge CA for CA cement to the first unrelated purchaser in the United States, less the cost of further manufacturing performed by Lafarge CA in the United States. The foreign market value was obtained based on information collected by the petitioner's market research consultant in France. The resulting price comparisons yielded alleged dumping margins of 41.23 percent to 198.10 percent.[23]

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[21] This subheading includes the subject CA cement as well as other nonsubject "aluminous cement."

[22] This subheading covers all cement clinkers, including the subject CA cement clinker (including CA flux), gray and white portland cement clinkers, and white, high-purity CA cement clinker (nonsubject). Slag-based fluxes for use in the steel industry, which respondent argues should be considered part of a like product including CA flux, would enter under different HTS subheadings depending upon their organic and chemical composition. According to ***, if a slag-based flux is comprised solely of inorganic substances or inorganic metal compounds, it would enter under subheading 3810.90.20. *** believes that most slag-based flux used by the steel industry enters under that subheading (telephone interview, Apr. 22, 1993).

[23] See amendment to petition, Apr. 15, 1993, p. 3.

THE U.S. MARKET

Petitioner argues, and respondents do not disagree, that the market for CA cement and cement clinker is national. Both Lehigh and Lafarge CA sell CA cement to the national market from their respective plants and from warehouses/terminals throughout the United States. ***. Figure 1 presents the locations of Lehigh's and Lafarge CA's U.S. plants and their warehouses for CA cement.

Figure 1
CA cement: U.S. producers' production and warehouse locations

* * * * * * *

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

Channels of Distribution

The majority of CA cement is sold directly to end users, whereas most CA cement clinker is sold through distributors. Lehigh grinds all of its non-flux clinker into cement; it does not sell it to other firms for grinding. The following tabulation presents data from Commission questionnaires on shipments of CA cement and CA cement clinker to distributors and end users during 1992 (in short tons), by company:

Product and firm	Distributors		End users	
	Related	Unrelated	Related	Unrelated
*	*	*	*	*	*	*

These data show that during 1992 ***.

During the period for which data were gathered in this investigation, approximately *** of the CA cement was sold in packaged form (table 3); the remainder was sold in bulk form from trucks or from rail transport. CA cement is typically packaged in bags, each filled bag weighing 94 pounds. ***.

Table 3
CA cement and cement clinker: Packaged and bulk shipments of U.S. producers and importers of product from France, by firms, 1990-92, January-March 1992, and January-March 1993

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

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

Apparent U.S. Consumption

Table 4 presents apparent U.S. consumption of CA cement and cement clinker. The data show that the quantity of apparent U.S. consumption of CA cement *** during 1990-92. During January-March 1993, apparent U.S. consumption *** compared with the corresponding period of 1992. Apparent U.S. consumption of CA cement clinker on the basis of quantity, including that consumed internally in the production of CA cement, ***. During January-March 1993, apparent U.S. consumption of CA cement clinker *** compared with the corresponding period of 1992.

Table 4
CA cement and cement clinker: U.S. producers' U.S. shipments,[1] U.S. shipments of imports, and apparent U.S. consumption, by products, 1990-92, January-March 1992, and January-March 1993

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

[1] U.S. shipments equal company transfers plus domestic shipments. Data for CA cement clinker include U.S.-produced and imported product that were consumed in the production of CA cement.

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

U.S. Producers

Petitioner Lehigh Portland Cement Co. is ***. Lehigh produces CA cement and cement clinker only at its plant in Gary, IN.[24] Lehigh produces all types of subject CA cement and cement clinker on the same machinery and equipment. It does not produce white, high-purity CA cement or cement clinker. In its questionnaire response Lehigh stated that ***.

According to petitioner, Lehigh is the only U.S. producer of CA cement and cement clinker. It acknowledges, however, that Lafarge CA, Chesapeake, VA, grinds CA cement clinker, which is imported from its parent company in France, into CA cement.[25] Nonetheless, petitioner argues that Lafarge CA is not a member of the domestic industry because it performs only a minor finishing operation (grinding) in the United States and it is a related party within the meaning of the law.[26] Lafarge CA argues that it is a "major producer in the United States with a substantial payroll and a total capital

[24] 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.

[25] Petition, p. 5. Lafarge CA is a wholly-owned subsidiary of Lafarge Fondu International (Lafarge Fondu), Neuilly-sur-Seine, France.

[26] Ibid., p. 6.

investment that [it] believes is many times that of the petitioner in this case."[27]

In addition to grinding the subject CAC clinker from France into CA cement and marketing the subject CA flux, Lafarge CA produces and imports nonsubject white, high-purity CA cement clinker and cement at its facility in Chesapeake, VA. Lafarge CA does not produce CA cement clinker. Although Lafarge CA argues that it could produce the subject CA cement clinker using the kiln that it uses to produce white, high-purity CA cement clinker, it admits that it has never done so.[28] Although the grinding equipment used to produce the subject CA cement and nonsubject white, high-purity CA cement are separate, they use a common packing and distribution facility.[29] The production and related workers at Lafarge CA, however, do produce both products. ***.

As noted above, CA cement clinker (CA flux) can be used as a desulfurizing agent/flux in the steel industry. Respondents submitted a list of seven other U.S. companies that they believe produce flux and that were not initially sent producers' questionnaires.[30] Respondents argue that the additional companies "produce material that either meets the definition of the product set forth in the petition and questionnaire or that is a like product that competes in the marketplace."[31]

On April 5, 1993, the Commission mailed producers' questionnaires to Lehigh, Lafarge CA, and Aluminum Company of America (ALCOA), which petitioner identified as a U.S. producer of white, high-purity CA cement and cement clinker (not subject to the petition).[32] On April 13, 1993, the Commission mailed producers' questionnaires to the seven additional companies named by the respondents as U.S. producers of flux. These firms are AIMCOR, BPI Inc., Detroit Lime Co., Elkem Metals Co., Minteq International Inc., Multimetco, and Shieldalloy Metallurgical Corp.

Lehigh and Lafarge CA returned completed producers questionnaires.[33] ALCOA confirmed that it did not produce the subject CA cement or cement clinker. AIMCOR,[34] BPI Inc.,[35] Detroit Lime Co., Minteq International Inc.,

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[27] Transcript, p. 54.

[28] Transcript, p. 111. ***. Lafarge Fondu indicates that it has produced the subject cement clinker in the same kilns and produced (ground) CA cement on the same machinery and equipment used to produce white, high-purity products at plants in Europe and that it is frequently done by producers in Brazil and Japan. *** (respondent's post-conference brief, exhibit 2, pp. 3-5).

[29] Transcript, p. 100.

[30] Letter from Donald L. Cuneo and Grant E. Finlayson, Shearman & Sterling, counsel to respondents, to Paul R. Bardos, Acting Secretary, U.S. International Trade Commission, Apr. 13, 1993.

[31] Ibid.

[32] Petitioner also identified Lafarge CA as a U.S. producer of white, high-purity CA cement and cement clinker (petition, p. 31).

[33] Lafarge's producer questionnaire response was limited to its CA cement clinker grinding operations; it did not include data on its operations producing white, high-purity CA cement.

[34] *** (telephone interview, Apr. 15, 1993).

[35] *** (telephone interview, Apr. 29, 1993).

and Shieldalloy Metallurgical Corp. notified the Commission that they did not produce the subject products during the period of investigation. ***.[36]

U.S. Importers

According to petitioner, Lafarge CA is the only importer of CA cement and/or cement clinker from France and France is virtually the only foreign source of the subject products.[37] On April 5, 1993, the Commission mailed importers' questionnaires to the 3 U.S. producers initially identified by petitioner and to 11 firms which the Customs Net Import file identified as importers of cement clinkers and/or "aluminous cement" as defined by the HTS. As mentioned above, CA cement and cement clinker are provided for under HTS subheadings that include other, nonsubject products. On April 13, 1993, importers questionnaires were also sent to the seven additional firms that respondents alleged were producers of flux.

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***.[38] According to official import statistics, during 1990 and 1991, 75 short tons and 169 short tons, respectively, of "aluminous" cement were imported from Yugoslavia. In 1992, 19 short tons of aluminous cement were imported from Croatia. All of the other firms which were sent importers' questionnaires responded by indicating that they did not import the subject products from any country during the period of investigation.

CONSIDERATION OF ALLEGED MATERIAL INJURY TO AN INDUSTRY IN THE UNITED STATES

Given that CA cement clinker is an intermediate material used in the production of finished CA cement or as a flux/desulfurizing agent in the steel industry, data on consumption, production, capacity, and capacity utilization must be evaluated separately for CA cement clinker and finished CA cement to avoid double counting or other aberrations. Where possible, data for CA cement clinker are presented separately for CA cement clinker for use as flux in the steel industry (CA flux) and for CA cement clinker for grinding into finished CA cement (CAC clinker).

U.S. Production, Capacity, and Capacity Utilization

Table 5 details production of CA cement ground from U.S.-produced CAC clinker and from imported CAC clinker. In addition, it presents U.S. production data on CA cement clinker.

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[36] ***. A summary of the data submitted by *** is presented in app. C.

[37] Petition, pp. 1 and 4. Moreover, petitioner states that Lafarge CA only imports CA cement clinker and no finished CA cement (petition, p. 5).

[38] Telephone interview with ***, Apr. 6, 1993.

Table 5
CA cement and cement clinker: U.S. capacity, production, and capacity utilization, by products and by firms, 1990-92, January-March 1992, and January-March 1993

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

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

U.S. production of CA cement ***. In 1992, production of CA cement ***. During January-March 1993, production ***. Lafarge CA's production of CA cement from imported CAC clinker imported from France accounted for *** percent of total U.S. production of CA cement in 1990; *** percent in 1991; and *** percent in 1992. Lafarge's production accounted for *** percent of total U.S. production during January-March 1992, and *** percent during the corresponding period of 1993. During the period for which data were gathered, Lehigh ***. In addition, Lehigh reported that ***. Lehigh's production of CA cement clinker ***. During January-March 1993, Lehigh's production of CA cement clinker ***.

During 1990-92, capacity to produce CA cement and cement clinker remained constant at *** and *** short tons, respectively. Capacity to produce the subject products remained constant between the interim periods. CA cement capacity utilization ***. CA cement clinker capacity utilization ***. During January-March 1993, capacity utilization to produce CA cement clinker ***.

U.S. Producers' Shipments

The total quantity of U.S. shipments of CA cement *** (table 6). In 1992, the quantity of U.S. shipments of CA cement ***. During January-March 1993, the quantity of U.S. shipments ***. The value of U.S. shipments of CA cement ***. During January-March 1993, the value of U.S. shipments ***. The unit value of U.S. shipments of CA cement ***. Both Lehigh and Lafarge CA reported ***.

Lehigh and Lafarge CA ***.

Lehigh produces 2 brands of CA cement and Lafarge CA produces 4. Shipments of CA cement, by brands, are presented in table 7.

Table 6
CA cement: Shipments of U.S. producers, by types and by firms, 1990-92, January-March 1992, and January-March 1993

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

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

Table 7
CA cement: U.S. shipments[1] of U.S. producers, by brands and by firms, 1990-92, January-March 1992, and January-March 1993

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

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

U.S. shipments of U.S.-produced CA cement clinker, by types and by firms, are presented in table 8. As noted above, Lehigh is the only U.S. producer of the subject CA cement clinker. *** Lehigh's U.S. shipments of CA cement clinker, including that used internally in the production of CA cement, ***. These data also show that between *** percent and *** percent of Lehigh's total U.S. shipments of CA cement clinker are of CA flux.

Table 8
CA cement clinker: U.S. shipments of U.S. producers, by types and by firms, 1990-92, January-March 1992, and January-March 1993

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

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

U.S. Producers' Inventories

The level of end-of-period inventories of CA cement held by producers *** from *** to *** percent of production from 1990 to January-March 1993 (table 9). Lehigh's inventories were ***.

Table 9
CA cement and cement clinker: End-of-period inventories of U.S. producers, by products and by firms, 1990-92, January-March 1992, and January-March 1993

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

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

U.S. Producers' Employment

The number of production and related workers (PRWs) and hours worked by such workers ***, during every period under investigation (table 10). During 1990-92, the number of PRWs and the corresponding hours worked ***, respectively. Wages and total compensation paid *** during the same period. During 1990-92, hourly wages ***. Productivity ***. Conversely, unit labor costs ***.

Table 10
Average number of production and related workers producing CA cement and cement clinker, hours worked, wages and total compensation paid to such employees, and hourly compensation, productivity, and unit labor costs, by firms, 1990-92, January-March 1992, and January-March 1993

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

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

In its questionnaire, the Commission requested U.S. producers to provide detailed information concerning reductions in the number of PRWs producing CA cement and/or cement clinker during January 1990 and March 1993 if such reductions involved at least 5 percent of the workforce, or 50 workers. ***. The reductions in force reported by *** are shown in the following tabulation:

Date of reduction	Number of Workers	Duration	Reason(s)
*	*	*	*

Financial Experience of U.S. Producers

Two firms--Lehigh and Lafarge CA--accounting for virtually all U.S. production of CA cement and CA cement clinker, provided income-and-loss data on their operations on these products. Lehigh produced CA cement clinker and used about *** percent of it in the production of CA cement, whereas Lafarge CA imported CA cement clinker from France and ground it to make CA cement during the period of investigation. Data for Lehigh and Lafarge CA are presented separately as well as combined in this section of the report.

Operations on CA Cement and CA Cement Clinker

Lehigh Portland Cement Co.

Income-and-loss data for Lehigh are shown in table 11. CA cement and CA cement clinker net sales accounted for an average of *** percent of the total net sales of Lehigh's overall establishment operations during the period covered by the investigation. Lehigh earned ***.[39]

Lehigh's net sales of CA cement and CA cement clinker ***.

Table 11
Income-and-loss experience of Lehigh Portland Cement Co. on its operations producing CA cement and CA cement clinker, calendar years 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	January-March-- 1992	1993
*	*	*	*	*	*

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

[39] Telephone conversation with Joseph W. Dorn, counsel for Lehigh, on Apr. 23, 1993.

Operating income of Lehigh ***.

Income-and-loss data on a per-short-ton basis are also shown in table 11. Lehigh sells only two brands, Lumnite and Refcon, in the domestic market. The volume of sales ***. The Refcon brand's share of the total volume of sales ***. The Refcon brand ***. The average per-short-ton sales value of each brand *** in each period.

The average per-short-ton sales value of CA cement clinker *** during the period covered. During the same period, the average per-short-ton sales value of CA cement showed ***. The average net sales value of CA cement and CA cement clinker combined ***. The average cost of goods sold ***. This resulted in ***. Average selling, general, and administrative expenses per short ton ***. During 1990-92, average operating income ***.

The value added, with and without selling, general, and administrative expenses (SG&A), to the material cost are presented in the following tabulation:

* * * * * * *

The value added without SG&A expenses to the material cost ranged from *** percent in 1990 to *** percent in January-March 1993, whereas the value added with SG&A expenses ranged from *** percent in 1990 to *** percent in January-March 1993.

Lafarge Calcium Aluminates

Income-and-loss data for Lafarge CA are shown in table 12. CA cement and CA cement clinker net sales 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. Net sales value of CA cement and CA cement clinker ***. Such net sales ***. Total net sales in short tons ***.

Net sales of CA cement clinker ranged from *** percent of Lafarge CA's total net sales in short tons in 1990 to *** percent in 1992 and January-March 1993. Net sales of CA cement clinker ranged from *** percent of total net sales in dollar value in 1990 to *** percent in 1992 and *** percent in January-March 1993. CA cement clinker's sales in short tons and in dollar value showed ***.

* * * * * * *

Operating income of Lafarge CA ***. During January-March 1993, operating income ***. Pre-tax net income margins ***.

Table 12
Income-and-loss experience of Lafarge Calcium Aluminates on its operations producing CA cement and selling CA cement clinker, calendar years 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	January-March-- 1992	1993
*	*	*	*	*	*	*

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

Income-and-loss data on a per-short-ton basis are also shown in table 12. Lafarge CA sells four major brands of CA cement--Fondu, Secar 51, Secar 41, and Fondag--in the domestic market. The volume of sales *** during 1990-92. During January-March 1992-93, the volume of sales ***.

The average per-short-ton sales value of CA cement clinker ***. The average sales value ***. During the period for which data were gathered the average trade sales value of CA cement showed ***. The average net sales of CA cement and CA cement clinker combined ***. The average cost of goods sold ***.

The average SG&A expenses per short ton *** during each period. Average operating income per short ton ***.

The value added, with and without SG&A expenses, to the material cost are presented in the following tabulation:

* * * * * * *

The value added without SG&A expenses to the material cost ranged from *** percent in January-March 1992 to *** percent in 1991, whereas the value added with SG&A expenses ranged from *** percent in January-March 1992 to *** percent in 1991. These ratios ***.

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

Lehigh and Lafarge CA combined

Income-and-loss data for both firms combined are shown in table 13. The net sales value of CA cement and CA cement clinker ***. Net sales ***. Total net sales in short tons ***. Such net sales ***.

Table 13
Income-and-loss experience of Lehigh Portland Cement Co. and Lafarge Calcium Aluminates combined on their operations producing CA cement and/or selling CA cement clinker, calendar years 1990-92, January-March 1992, and January-March 1993

Item	1990	1991	1992	January-March-- 1992	1993
*	*	*	*	*	*	*

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

Net sales of CA cement clinker ranged from about *** percent of total net sales both in short tons and in dollar value in 1990 to about *** percent in 1992 and about *** percent in January-March 1993. CA cement clinker's sales in short tons and in dollar value showed ***. ***.

Aggregate operating income ***. During January-March 1993, the firms reported a combined ***. Pre-tax net income or loss margins followed a similar trend as operating income or loss margins.

Investment in Productive Facilities

Investment in property, plant, and equipment and return on investment, by firm, are shown in table 14. 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 14
CA cement and CA cement clinker: Value of assets and return on assets, by firms, calendar years 1990-92, January-March 1992, and January-March 1993

Item	As of the end of calendar year-- 1990	1991	1992	As of Mar. 31-- 1992	1993
*	*	*	*	*	*	*

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

Capital Expenditures

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

Item	1990	1991	1992	January-March-- 1992	1993
*	*	*	*	*	*

Research and Development

Lehigh reported that its accounting records do not capture research and development expenditures, if any, for this establishment. Research and development expenses of Lafarge CA for CA cement and CA cement clinker are presented in the following tabulation (in thousands of dollars):

Item	1990	1991	1992	January-March-- 1992	1993
*	*	*	*	*	*

Capital and Investment

The Commission requested U.S. producers to describe any actual or potential negative effects of imports of CA cement and/or CA cement clinker 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 improved version of CA cement and/or CA cement clinker). The producers' responses are presented in appendix D.

CONSIDERATION OF THE QUESTION OF THREAT OF MATERIAL INJURY

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

> In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the merchandise, the Commission shall consider, among other relevant economic factors[40]--
>
> (I) If a subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the subsidy is an export subsidy inconsistent with the Agreement),
>
> (II) any increase in production capacity or existing unused capacity in the exporting country likely to result in a significant increase in imports of the merchandise to the United States,
>
> (III) any rapid increase in United States market penetration and the likelihood that the penetration will increase to an injurious level,
>
> (IV) the probability that imports of the merchandise will enter the United States at prices that will have a depressing or suppressing effect on domestic prices of the merchandise,
>
> (V) any substantial increase in inventories of the merchandise in the United States,
>
> (VI) the presence of underutilized capacity for producing the merchandise in the exporting country,
>
> (VII) any other demonstrable adverse trends that indicate the probability that the importation (or sale for importation) of the merchandise (whether or not it is actually being imported at the time) will be the cause of actual injury,

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

> (VIII) the potential for product-shifting if production facilities owned or controlled by the foreign manufacturers, which can be used to produce products subject to investigation(s) under section 701 or 731 or to final orders under section 706 or 736, are also used to produce the merchandise under investigation,
>
> (IX) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both), and
>
> (X) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the like product.[41]

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 alleged 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.

U.S. Importers' Inventories

As mentioned above, Lafarge CA was the only importer of CA cement clinker from France during the period of investigation. It did not import any CA cement from France in its finished form. The following tabulation presents data on Lafarge CA's inventories of CA cement clinker from France:

---

[41] 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."

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

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

According to petitioner and counsel for Lafarge CA and Lafarge Fondu, Lafarge Fondu is the only producer of CA cement and cement clinker in France.[42] Counsel on behalf of Lafarge Fondu submitted data on its client's operations in France (table 15). The data submitted indicate that Lafarge Fondu's capacity utilization for CA cement ***. During January-March 1993, capacity utilization ***. Lafarge Fondu's capacity to produce CA cement ***. Its annual capacity ***. Lafarge Fondu ***. A majority of Lafarge Fondu's total shipments of CA cement were ***.

Table 15
CA cement: French production capacity, production, capacity utilization, shipments, and end-of-period inventories, 1990-92, January-March 1992, January-March 1993, and projected 1993 and 1994

(Short tons, except as noted)

Item	1990	1991	1992	Jan.-Mar.-- 1992	1993	Projected-- 1993	1994
*	*	*	*	*	*	*	

Source: Compiled from data supplied by counsel for Lafarge Fondu International.

Lafarge Fondu's capacity to produce CA cement clinker *** (table 16). Capacity utilization ***. During January-March 1993, capacity utilization ***. Lafarge Fondu reported that it produces a CA flux product known as "LDSF." Although, LDSF, like a product produced by the petitioner, meets the definition of CA cement clinker, it cannot be ground into CA cement. Lafarge Fondu and petitioner produce these products on some of the same equipment and machinery used in the production of CAC clinker that is used for grinding into CA cement. Lafarge Fondu ***.[43]

[42] This information was confirmed by the U.S. Embassy in Paris (U.S. Department of State, telegram No. 10166, April 1993). However, the Commission received an importers' questionnaire response from a firm that imported a small amount of CA cement from France in 1991 (***) which was produced by another firm, ***.

[43] Plants producing the subject products are in ***, France.

Table 16
CA cement clinker: French production capacity, production, capacity utilization, shipments, and end-of-period inventories, 1990-92, January-March 1992, January-March 1993, and projected 1993 and 1994

(Short tons, except as noted)

Item	1990	1991	1992	Jan.-Mar.-- 1992	Jan.-Mar.-- 1993	Projected-- 1993	Projected-- 1994
*	*	*	*	*	*	*	

Source: Compiled from data supplied by counsel for Lafarge Fondu International.

***. In 1992, exports to the United States accounted for approximately *** percent of its total exports; ***. Lafarge Fondu reported that ***. Exports of Lafarge Fondu's CA cement and/or CA cement clinker are not subject to any antidumping findings or remedies in any GATT-member country.[44]

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

U.S. Imports

As noted above, petitioner believes that there were no imports of CA cement from France during 1991-92, instead only CA cement clinker. In addition, petitioner believes that since 1990 all imports of CA cement clinker from France were entered into the Norfolk, VA, Customs District.[45] The petition provided quantity and value data on U.S. imports of CA cement clinker from France for calendar years 1991 and 1992 based on revised official Commerce statistics. These data are as follows:[46]

Item	1991	1992
Quantity (short tons).....	45,045	49,270
C.I.F. value.....	$6,046,867	$6,461,239

Lafarge CA does not currently import any CA cement from France in its finished form. All of its CA cement is imported as CA cement clinker. Based on data submitted in response to questionnaires of the U.S. International Trade Commission, only one firm imported any CA cement from France in its

[44] Transcript, pp. 115-116.
[45] Petition, p. 12.
[46] Petition, p. 14. Petitioner's data reportedly are based on revised official Commerce Department statistics that correct for imports of CA cement clinker from France that were misclassified as aluminous cement (see petition p. 14, and exhibits 1 and 2).

finished form during the period of investigation.[47] This firm, ***, imported a total of *** short tons valued at $*** in 1991. It did not import during any other period covered by the Commission's investigation.

Only one firm contacted by the Commission imported CA cement and/or CA cement clinker from any country other than France. This firm, ***, did not return a completed questionnaire. It commented to staff that it had imported small amounts of CA cement from Croatia and the former Yugoslavia during the period of the Commission's investigation and would not respond to the Commission's questionnaire.[48] According to official import statistics, during 1990 and 1991, 75 short tons and 169 short tons, respectively, of "aluminous" cement were imported from Yugoslavia. In 1992, 19 short tons of aluminous cement were imported from Croatia. These imports had a landed duty-paid value of $18,403, $33,198, and $6,101, respectively.

Table 17 presents data on Lafarge CA's imports of CA cement clinker from France.

Table 17
CA cement clinker: U.S. imports from France, by types, 1990-92, January-March 1992, and January-March 1993

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

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

U.S. Market Shares

Market shares of U.S. shipments of CA cement are presented in table 18. These data show that Lafarge CA's market share based on quantity of CA cement produced in the United States, using CAC clinker imported from France, ***. During January-March 1993, Lafarge CA's market share ***. As noted above, imports of CA cement are virtually nonexistent.

Market shares of U.S. shipments of CA cement clinker, including that consumed internally in the production of CA cement, are presented in table 19. The share of U.S. shipments based on quantity of CA cement clinker accounted for by Lafarge CA's imports from France ***. During January-March 1993, the market share of imports from France ***.

The following tabulation presents data on apparent consumption and market shares of CA flux as compiled from the Commission's questionnaires:

* * * * * * *

[47] As noted above, Lafarge Fondu reported ***.
[48] Telephone interview with *** on Apr. 6, 1993.

Table 18
CA cement: Apparent U.S. consumption, U.S. producers' shipments, by firms, imports from France and all other sources, and ratios of imports to apparent consumption, 1990-92, January-March 1992, and January-March 1993

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

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

Table 19
CA cement clinker: Apparent U.S. consumption, U.S. producers' shipments, by firms, imports from France and all other sources, and ratios of imports to apparent consumption, 1990-92, January-March 1992, and January-March 1993

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

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

At the staff conference counsel for petitioner and counsel for respondents were asked to provide information on the size of the desulfurizing agent/flux market as comprised of CA flux and other flux products such as slag-based fluxes.[49] It its post-conference brief, petitioner estimated that CA flux accounted for over *** percent of the "calcium aluminate used in the steel industry in 1992."[50] Respondents did not answer the question in their post-conference brief as requested, but later submitted a FAX response when pressed by the Commission's investigator. In their response, respondents estimated the size of the U.S. flux market to be *** short tons, of which *** short tons, or *** percent, is accounted for by "pre-formed calcium aluminate flux," i.e. pre-made flux purchased in a usable or near-usable form, including CA flux. A U.S producer of a synthetic slag/flux product estimated that *** to *** percent of the slag/flux market is served by CA cement clinker (CA flux) as defined by petitioner.[51]

[49] Transcript, pp. 36 and 96.
[50] Petitioner's post-conference brief, exhibit 1, pp. 1 and 2.
[51] Telephone interview with ***, Apr. 29, 1993.

Market Characteristics

The demand for CA cement is principally derived from the demand for refractory concretes or mortars, the end product in which the material is used. CA cement is also used in non-refractory applications in the construction industry. In addition, as noted previously, CA cement clinker (or CA flux) is used as a desulfurizing agent in refining steel. Accordingly, end users' purchases of CA products vary depending on the level of demand for refractory products, new and replacement construction requiring specialty cement mixtures, and the level of steel production. Industry sources indicated that demand for the subject CA products decreased during the most recent part of the period for which data were collected in this investigation.

Petitioner contends that no products compete with or may be substituted for CA cement in the above-described applications,[52] and no cost effective substitutes for CA cement clinker are available in refining steel.[53] However, respondents contend that there are several substitutes for both CA cement and CA flux.[54] [55]

Suppliers of CA cement in the U.S. market transact sales on both an f.o.b. and a delivered price basis.[56] Since CA cement is often bought in 40,000-pound truckloads, a small difference in price per pound can translate into a significant difference in the total purchase cost. Shipments of cement mixtures within the United States are carried primarily by truck and rail from the production locations--Gary, IN, for Lehigh, and Chesapeake, VA, for Lafarge CA--or warehouses throughout the United States maintained by both Lehigh and Lafarge CA (see fig. 1).[57] The cost of shipping within the United States is significant, and can range from approximately *** percent to approximately *** percent of the purchase price of the cement, depending upon the distance the product is to be shipped. The following tabulation shows the average U.S. transportation costs per ton of CA cement reported in the questionnaire responses:[58]

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[52] Lehigh stated at the conference that "There are no substitutes for CA cement as a hydraulic setting binder in the production of these refractory products" and "There are no substitutes for ordinary CA cement in these non-refractory applications." In its questionnaire response, Lehigh also noted that ***. Thus, petitioner concludes that "low prices for ordinary CA cement do not stimulate additional demand. Similarly, lower prices of CA clinker will not stimulate production of more steel and will not create additional demand for flux." (Transcript of the conference, pp. 22-23.)

[53] Lehigh stated in its questionnaire that ***.

[54] Lafarge CA ***.

[55] Lafarge CA ***.

[56] Lehigh reported that ***.

[57] Lehigh reported that *** .

[58] ***.

Distance from shipping point	Lehigh	Lafarge CA
0-149 miles	$***	$***
150-299 miles	***	***
300-499 miles	***	***
Over 500 miles	***	***

In its questionnaire response, Lehigh reported that ***.

The average leadtime between a customer's order and the date of delivery for sales of CA cement was reported to be *** days by Lehigh and *** days by Lafarge CA. Lehigh reported ***. Lafarge CA reported ***. Lehigh and Lafarge CA both reported that ***.

Prices

The Commission requested price data from U.S. producers and importers of CA cement clinker for their sales of this product on a national level and their sales of brand name CA cement products[59] to five distinct market areas: Eastern Pennsylvania, Southern California, Northern Texas, the State of Missouri, and the State of Ohio. Producers and importers were requested to provide f.o.b. and delivered price data, by the type of packaging (bagged or bulk) and by quarters during January 1990-March 1993, for their largest sale of each product in each market region; these firms were also requested to provide data on their total shipments to all unrelated customers. Price data for bulk CA cement clinker were requested on a national basis for sales to unrelated distributors for use as flux in the steel industry. Pricing data for CA cement clinker and the brand name CA cement products were reported by both the U.S. producer, Lehigh, and the U.S. importer, Lafarge CA.

Pricing data reported for CA cement clinker represented 100 percent and approximately *** percent of total U.S. shipments of U.S.-produced and French CA cement clinker, respectively. Pricing data reported for the five brand name CA cement products represented nearly *** percent and *** percent of total U.S. shipments of Lehigh's and Lafarge CA's CA cement, respectively.

---

[59] Lehigh reported price data for its two brand name products, Lumnite and Refcon, whereas Lafarge CA reported price data for three brand name products, Fondu, Secar 41, and Secar 51. The petitioner, Lehigh, estimated at the preliminary conference that clinker accounted for 90 percent of the total cost of production of finished cements. Lafarge CA, the importer/distributor, characterized the price of clinker to be a significant portion in the cost of production of finished cements.

Price Trends

Price trends are based on the unit values of total shipments of CA flux for the steel industry and on the unit values of total shipments of the five brand name CA cement products. Both the U.S. producer and U.S. importer reported a complete unit value series for CA cement clinker. Lehigh reported 14 complete or nearly complete unit value series for its 2 brand name CA cement products, whereas Lafarge CA reported 18 complete or nearly complete unit value series for its 3 brand name CA cement products. Indices were calculated from these unit value series to show price trends because Lehigh generally reported unit values on an f.o.b. basis whereas Lafarge CA reported them on a delivered basis.

Unit values for U.S.-produced CA cement clinker made into flux for the steel industry *** during January-March 1990-January-March 1993, whereas unit values for the imported product from France *** (table 20).

Unit values for the 2 Lehigh-produced brand name CA cement products *** (table 21). ***.

Unit values for the three Lafarge-produced brand name CA cement products *** (table 22). ***.

Table 20
CA cement clinker: Indices of unit values received by Lehigh and Lafarge CA for sales to unrelated distributors of bulk CA cement clinker for use as flux in the steel industry, by quarters, January 1990-March 1993

Period	Produced by Lehigh	Imported by Lafarge CA
	* * * * * * *	

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

Table 21
CA cement: F.o.b. unit value indices of Lehigh's Lumnite and Refcon brands sold to end users, by market areas, by types of packaging, and by quarters, January 1990-March 1993

	Eastern Pennsylvania		Southern Calif.	Northern Texas	Missouri		Ohio	
Period	Bagged	Bulk	Bagged	Bagged	Bagged	Bulk	Bagged	Bulk
	* * * * * * *							

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

Table 22
CA cement: Delivered unit value indices of Lafarge CA's **Fondu, Secar 41, and Secar 51** brands sold to end users, by market areas, by types of packaging, and by quarters, January 1990-March 1993

Period	Eastern Pennsylvania		Southern California		Northern Texas	Missouri	Ohio
	Bagged	Bulk	Bagged	Bulk	Bagged	Bagged	Bagged
	*	*	*	*	*	*	*

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

Price Comparisons

The technical specifications of various CA cements marketed by Lehigh and Lafarge CA vary widely, as does the emphasis placed upon such specifications by each firm. As a result, direct price comparisons between different formulations are not presented since no two are identical.[60] Furthermore, although Lafarge CA's CA flux is produced from imported clinker, it is further processed in the United States.

Both petitioner and respondent agreed that it may be difficult to observe meaningful price comparisons between Lehigh's and Lafarge CA's prices of CA cement and CA cement clinker. In its post-conference brief, Lehigh reported that it generally sells on an f.o.b. basis, whereas Lafarge CA sells on a delivered basis. Lehigh did not believe it was possible to provide accurate estimates of the shipping costs where the customer picks up the product, thus it is difficult to compare delivered prices. Lehigh also argued that pricing data reported for clinker sold for use as flux do not provide a comparison at the same level of trade because Lafarge CA further processes the imported CA clinker by crushing and sizing it for sale under a brand name as LDSFLUX.

Lafarge CA argued that price comparisons should be made on the basis of alumina content. Since customers pay more for a higher alumina content, a

[60] According to the petitioner, Lehigh's Lumnite brand of CA cement is virtually identical to Lafarge CA's Secar 41 brand and very similar to Lafarge CA's Fondu brand. Lehigh's Refcon brand of CA cement is virtually identical to Lafarge CA's Secar 51 (petitioner's post-conference brief, p. 32). Appendix E presents price data on the above CA cement products that petitioner believes compete against one another. These data are based on largest quarterly shipment f.o.b. and delivered prices. Factors that figure prominently in rating the competitiveness of the aluminous cements stressed at the Commission's conference include price and certain easily recognizable performance characteristics such as hardening time, bulk density, and pyroscopic resistance specific to critical usage applications.

simple comparison of the reported prices for sales of different grades would obviously result in significant distortions.[61]

Lost Sales and Lost Revenues

* * * * * * *

Exchange Rates

Quarterly data reported by the International Monetary Fund indicate that from January-March 1990 to January-March 1993 the nominal value of the French franc fluctuated, appreciating 3.9 percent overall relative to the U.S. dollar (table 23).[62] Adjusted for movements in producer price indexes in the United States and France, the real value of the French currency showed an overall depreciation of less than 1 percent for the period January-March 1990 through the fourth quarter of 1991, the most recent period for which official price data are available.

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[61] Respondents' post-conference brief, p. 27.

[62] International Financial Statistics, April 1993.

Table 23
Exchange rates:[1] Indexes of nominal and real exchange rates of the French franc, and indexes of producer prices in the United States and France,[2] by quarters, January 1990-March 1993

Period	U.S. producer price index	French producer price index	Nominal exchange rate index	Real exchange rate index[3]
1990:				
January-March.....	100.0	100.0	100.0	100.0
April-June.....	99.8	99.8	101.6	101.6
July-September.....	101.6	100.0	107.3	105.6
October-December....	104.7	101.1	113.4	109.6
1991:				
January-March.....	102.5	100.7	110.1	108.1
April-June.....	101.5	99.2	97.6	95.3
July-September.....	101.4	98.5	96.8	94.0
October-December....	101.5	97.5	103.3	99.2
1992:				
January-March.....	101.3	(4)	104.1	(4)
April-June.....	102.3	(4)	105.4	(4)
July-September.....	102.8	(4)	115.6	(4)
October-December....	102.9	(4)	109.0	(4)
1993:				
January-March.....	103.2[5]	(4)	103.9[6]	(4)

[1] Exchange rates expressed in U.S. dollars per French franc.
[2] Producer price indexes--intended to measure final product prices--are based on period-average quarterly indexes presented in line 63 of the International Financial Statistics.
[3] The real exchange rate is derived from the nominal rate adjusted for relative movements in producer prices in the United States and France.
[4] Not available.
[5] Derived from U.S. price data reported for January-February only.
[6] Derived from French exchange rate data reported for January-February only.

Note.--January-March 1990 = 100.

Source: International Monetary Fund, International Financial Statistics, April 1993.

APPENDIX A

FEDERAL REGISTER NOTICES

INTERNATIONAL TRADE COMMISSION

[Investigation No. 731-TA-645 (Preliminary)]

Certain Calcium Aluminate Cement and Cement Clinker From France

AGENCY: International Trade Commission.

ACTION: Institution and scheduling of a preliminary antidumping investigation.

SUMMARY: The Commission hereby gives notice of the institution of preliminary antidumping investigation No. 731-TA-645 (Preliminary) under section 733(a) of the Tariff Act of 1930 (19 U.S.C. 1673b(a)) to determine whether there is a reasonable indication that an industry in the United States is materially injured, or is threatened with material injury, or the establishment of an industry in the United States is materially retarded, by reason of imports from France of calcium aluminous cement and cement clinker, provided for in subheadings 2523.10.00 and 2523.30.00 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value. The Commission must complete preliminary antidumping investigations in 45 days, or in this case by May 17, 1993.

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

EFFECTIVE DATE: March 31, 1993.

FOR FURTHER INFORMATION CONTACT: Brian Walters (202-205-3198), Office of Investigations, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436. Hearing-impaired persons can obtain information on this matter by contacting the Commission's TDD terminal on 202-205-1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202-205-2000.

SUPPLEMENTARY INFORMATION:

Background

This investigation is being instituted in response to a petition filed on March 31, 1993, by Lehigh Portland Cement Company, Allentown, PA.

Participation in the Investigation and Public Service List

Persons (other than petitioners) wishing to participate in the investigation as parties must file an entry of appearance with the Secretary to the Commission, as provided in §§ 201.11 and 207.10 of the Commission's rules, not later than seven (7) days after publication of this notice in the Federal Register. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to this investigation upon the expiration of the period for filing entries of appearance.

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

Pursuant to § 207.7(a) of the Commission's rules, the Secretary will make BPI gathered in this preliminary investigation available to authorized applicants under the APO issued in the investigation, provided that the application is made not later than seven (7) days after the publication of this notice in the Federal Register. A separate service list will be maintained by the Secretary for those parties authorized to receive BPI under the APO.

Conference

The Commission's Director of Operations has scheduled a conference in connection with this investigation for 9:30 a.m. on April 21, 1993, at the U.S. International Trade Commission Building, 500 E Street SW., Washington, DC. Parties wishing to participate in the conference should contact Brian Walters (202-205-3198) not later than April 19, 1993, to arrange for their appearance. Parties in support of the imposition of antidumping duties in this investigation and parties in opposition to the imposition of such duties will each be collectively allocated one hour within which to make an oral presentation at the conference. A nonparty who has testimony that may aid the Commission's deliberations may request permission to present a short statement at the conference.

Written Submissions

As provided in §§ 201.8 and 207.15 of the Commission's rules, any person may submit to the Commission on or before April 26, 1993, a written brief containing information and arguments pertinent to the subject matter of the investigation. Parties may file written testimony in connection with their presentation at the conference no later than three (3) days before the conference. If briefs or written testimony contain BPI, they must 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 207.12 of the Commission's rules.

By order of the Commission.

Issued: April 5, 1993.

Paul R. Bardos,

Acting Secretary.

[FR Doc. 93-8386 Filed 4-8-93; 8:45 am]

BILLING CODE 7020-02-P

International Trade Administration

[A-427-812]

Initiation of Antidumping Duty Investigation: Calcium Aluminate Cement and Cement Clinker From France

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

EFFECTIVE DATE: April 26, 1993.

FOR FURTHER INFORMATION CONTACT: Jim Cunningham, Office of Antidumping Investigations, Import Administration, International Trade Administration, U.S. Department of Commerce, 14th Street and Constitution Avenue NW., Washington, DC 20230; telephone (202) 482-4207.

Initiation of Investigation

The Petition

On March 31, 1993, we received a petition filed in proper form by Lehigh Portland Cement Company (petitioner). Petitioner filed a supplement to the petition on April 15, 1993. In accordance with 19 CFR 353.12, petitioner alleges that calcium aluminate cement and cement clinker from France is being, or is likely to be, sold in the United States at less than fair value within the meaning of section 731 of the Tariff Act of 1930, as amended (the Act), and that these imports are materially injuring, or threaten material injury to, a U.S. industry.

Petitioner has stated that it has standing to file the petition because it is an interested party, as defined under section 771(9)(C) of the Act, and because the petition was filed on behalf of the U.S. industry producing the product subject to this investigation. If any interested party, as described under paragraphs (C), (D), (E) or (F) of section 771(9) of the Act, wishes to register support for, or opposition to, this petition, it should file a written notification with the Assistant Secretary for Import Administration.

Scope of Investigation

The products covered by this investigation are calcium aluminate cement and cement clinker other than white, high purity calcium aluminate cement and cement clinker. The products included in this investigation contain by weight more than 32 percent but less than 65 percent alumina and more than one percent each of iron and silica. Clinker is the primary raw material used in the cement production process.

Calcium aluminate cement and cement clinker covered by the scope of this investigation are currently classifiable under the following HTSUS subheadings: 2523.30.0000 and 2523.10.0000, respectively. Although the HTSUS subheadings are provided for convenience and customs purposes, our written description of the scope of this investigation is dispositive.

United States Price and Foreign Market Value

Petitioner based its estimate of United States Price (USP) on observed price quotations during August and September, 1992, by a party in the United States related to the French producer, Lafarge Fondu International. The prices are delivered, bagged prices for cement. Petitioner claims that virtually all of the subject merchandise imported into the United States from France has been entered in the form of cement clinker, which is sold to the French producer's wholly-owned subsidiary in the United States, Lafarge Calcium Aluminates Incorporated (Lafare CA). Lafarge CA further manufactures cement clinker into cement in the United States. Therefore, petitioner calculated margins for cement clinker by taking a USP for cement and adjusting for further manufacturing in the United States, profit, on further manufacturing, ocean freight and insurance charges and VAT.

Petitioner based its estimate of Foreign Market Value (FMV) on observed price quotations obtained by a market research firm in France. The price quotations were effective from March through July, 1992. The prices are delivered, bagged, and VAT-exclusive prices for cement. Since petitioner could not find sales of cement clinker by Lafarge to unrelated parties in France, petitioner adjusted cement prices for differences in merchandise to obtain a cement clinker price. Petitioner also adjusted FMV for freight charges, credit and value-added tax (VAT).

The range of dumping margins for calcium aluminate cement and cement clinker based on price-to-price comparisons alleged by petitioner is 41.23—198.10 percent.

Initiation of Investigation

We have examined the petition on calcium aluminate cement and cement clinker from France and have found that it meets the requirements of section

732(b) of the Act. Therefore, we are initiating an antidumping duty investigation to determine whether imports of 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.

Preliminary Determination by the International Trade Commission

The International Trade Commission (ITC) will determine by May 17, 1993, whether there is a reasonable indication that imports of calcium aluminate cement and cement clinker from France are materially injuring, or threaten material injury to, a U.S. industry. A negative ITC determination will result in the investigation being terminated; otherwise, the investigation will proceed according to statutory and regulatory time limits.

This notice is published pursuant to section 732(c)(2) of the Act and 19 CFR 353.13(b).

Dated: April 20, 1993.

Joseph A. Spetrini,

Acting Assistant Secretary for Import Administration.

[FR Doc. 93-9677 Filed 4-23-93; 8:45 am]

BILLING CODE 3510-DS-M

APPENDIX B

CALENDAR OF PUBLIC CONFERENCE

CALENDAR OF PUBLIC CONFERENCE

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

Subject	:	CERTAIN CALCIUM ALUMINATE CEMENT AND CEMENT CLINKER FROM FRANCE
Inv. No.	:	731-TA-645 (Preliminary)
Date and Time	:	April 21, 1993 - 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 Street, S.W., Washington, D.C.

In Support of Imposition of Antidumping Duties:

Kilpatrick & Cody
Washington, DC
On behalf of

Lehigh Portland Cement Company, Allentown, PA

Roy J. Bottjer, National Marketing Manager, Calcium Aluminate Cements and Specialty Cement Products
Susan Mitch, Assistant General Counsel

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, Neuilly-sur-Seine, France, and LaFarge Calcium Aluminates, Inc., Chesapeake, VA

Kirk Coyne, Chief Financial Officer, LaFarge Fondu International
Gary Gauthier, President, LaFarge Calcium Aluminates, Inc.
Johnny Love, Manager of Technical Assistance, LaFarge Calcium Aluminates, Inc.
Tom Green, National Sales Manager

Saul Gilbert, independent consultant

Grant E. Finlayson)
Wendy E. Ackerman) --OF COUNSEL

APPENDIX C

SUMMARY DATA TABLES

Table C-1
CA cement: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

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Table C-2
CA cement clinker: Summary data concerning the U.S. market, 1990-92, January-March 1992, and January-March 1993

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Table C-3
Flux: Summary data, 1990-92, January-March 1992, and January-March 1993

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APPENDIX D

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 CA cement and/or CA cement clinker 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:

Actual Negative Effects and Influence of Imports on Capital Investment

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Anticipated Negative Effects

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APPENDIX E

PRICING TABLES

Table E-1
CA cement: Average sales prices to end users for bagged shipments of Lehigh's Lumnite brand and Lafarge CA's Fondu brand, by market areas and by quarters, January 1990-March 1993

(Quantity in short tons; price in dollars per short ton)

Period	Lehigh's Lumnite brand			Lafarge CA's Fondu brand		
	Qty.	F.O.B. price	Delivered price	Qty.	F.O.B. price	Delivered price
Eastern Pennsylvania market area						
*	*	*	*	*	*	*
Southern California market area						
*	*	*	*	*	*	*
Northern Texas market area						
*	*	*	*	*	*	*
Missouri						
*	*	*	*	*	*	*

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

Table E-2
CA cement: Average sales prices to end users for bagged shipments of Lehigh's Lumnite brand and Lafarge CA's Secar 41 brand, by market areas and by quarters, January 1990-March 1993

(Quantity in short tons; price in dollars per short ton)

Period	Lehigh's Lumnite brand			Lafarge CA's Secar 41 brand		
	Qty.	F.O.B. price	Delivered price	Qty.	F.O.B. price	Delivered price
Eastern Pennsylvania market area						
*	*	*	*	*	*	*
Northern Texas market area						
*	*	*	*	*	*	*
Missouri						
*	*	*	*	*	*	*
Ohio						
*	*	*	*	*	*	*
Southern California market area						
*	*	*	*	*	*	*

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

Table E-3
CA cement: Average sales prices to end users for bagged shipments of Lehigh's Refcon brand and Lafarge CA's Secar 51 brand, by market areas and by quarters, January 1990-March 1993

(Quantity in short tons; price in dollars per short ton)

Period	Lehigh's Refcon brand			Lafarge CA's Secar 51 brand		
	Qty.	F.O.B. price	Delivered price	Qty.	F.O.B. price	Delivered price
Eastern Pennsylvania market area						
*	*	*	*	*	*	*
Missouri						
*	*	*	*	*	*	*
Northern Texas market area						
*	*	*	*	*	*	*
Ohio						
*	*	*	*	*	*	*
Southern California market area						
*	*	*	*	*	*	*

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

Table E-4
CA cement: Average sales prices to end users in the Eastern Pennsylvania market area for bulk shipments of Lehigh's **Lumnite** brand and Lafarge CA's **Fondu** brand, by quarters, January 1990-March 1993

(Quantity in short tons; price in dollars per short ton)

	Lehigh's Lumnite brand			Lafarge CA's Fondu brand		
Period	Qty.	F.O.B. price	Delivered price	Qty.	F.O.B. price	Delivered price
	*	*	*	*	*	*

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

Table E-5
CA cement: Average sales prices to end users in Missouri for bulk shipments of Lehigh's **Refcon** brand and Lafarge CA's **Secar 51** brand, by quarters, January 1990-March 1993

(Quantity in short tons; price in dollars per short ton)

	Lehigh's Refcon brand			Lafarge CA's Secar 51 brand		
Period	Qty.	F.O.B. price	Delivered price	Qty.	F.O.B. price	Delivered price
	*	*	*	*	*	*

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

Table E-6
CA cement: Average sales prices to end users in Missouri for bagged shipments of Lehigh's Refcon brand and Lafarge CA's Fondu brand and for bulk shipments of Lehigh's Lumnite brand and Lafarge CA's Secar 51 brand, by quarters, January 1990-March 1993

(Quantity in short tons; price in dollars per short ton)

Period	Qty.	F.O.B. price	Delivered price	Qty.	F.O.B. price	Delivered price
	Lehigh's Refcon brand			Lafarge CA's Fondu brand		
*	*	*	*	*	*	*
	Lehigh's Lumnite brand			Lafarge CA's Secar 51 brand		
*	*	*	*	*	*	*

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

Table E-7
Average prices received by Lehigh and Lafarge CA for sales to unrelated distributors of bulk CA cement clinker for use as flux in the steel industry, by quarters, January 1990-March 1993

(Quantity in short tons; price in dollars per short ton)

Period	Produced by Lehigh			Imported by Lafarge CA		
	Qty.	F.O.B. price	Delivered price	Qty.	F.O.B. price	Delivered price
*	*	*	*	*	*	*

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