CANADIAN INTERNATIONAL TRADE TRIBUNAL
TRIBUNAL CANADIEN DU COMMERCE EXTÉRIEUR

Ottawa, Wednesday, December 7, 1994

Appeal Nos. AP-94-016 and AP-94-109

IN THE MATTER OF appeals heard on September 14, 1994, under section 67 of the *Customs Act*, R.S.C. 1985, c. 1 (2nd Supp.);

AND IN THE MATTER OF decisions of the Deputy Minister of National Revenue dated January 18, February 14 and April 6, 1994, with respect to requests for re-determination under section 63 of the *Customs Act*.

BETWEEN

NARCO CANADA INC.,
DIV. OF NORTH AMERICAN REFRACTORIES CO.
AND NORTH AMERICAN REFRACTORIES CO. **Appellants**

AND

THE DEPUTY MINISTER OF NATIONAL REVENUE **Respondent**

DECISION OF THE TRIBUNAL

The appeals are allowed.

Anthony T. Eyton
Anthony T. Eyton
Presiding Member

Raynald Guay
Raynald Guay
Member

Desmond Hallissey
Desmond Hallissey
Member

Michel P. Granger
Michel P. Granger
Secretary

333 Laurier Avenue West
Ottawa, Ontario K1A 0G7
(613) 990-2452 Fax (613) 990-2439

333, avenue Laurier ouest
Ottawa (Ontario) K1A 0G7
(613) 990-2452 Téléc. (613) 990-2439

CANADIAN INTERNATIONAL TRADE TRIBUNAL
TRIBUNAL CANADIEN DU COMMERCE EXTÉRIEUR

UNOFFICIAL SUMMARY

Appeal Nos. AP-94-016 and AP-94-109

**NARCO CANADA INC.,
DIV. OF NORTH AMERICAN REFRACTORIES CO.
AND NORTH AMERICAN REFRACTORIES CO.** **Appellants**

and

THE DEPUTY MINISTER OF NATIONAL REVENUE **Respondent**

The issue in these appeals is whether resin-bonded refractory bricks, resin-bonded refractory continuous-casting components and precast refractory components imported from the United States between May 14, 1991, and December 16, 1992, are properly classified under tariff item Nos. 6815.99.99 and 6810.99.00, as determined by the respondent, or should be classified under tariff item Nos. 6902.10.00 and 6902.20.00, as claimed by the appellants. The Tribunal must determine whether the goods in issue have been fired after shaping, before importation.

HELD: *The appeals are allowed. None of the industry definitions of "firing" specify a temperature range within which firing must occur. Furthermore, subparagraph (B)(iv) of the Explanatory Notes to the Harmonized Commodity Description and Coding System to Chapter 69 uses the word "generally" in describing the temperature range. In the Tribunal's view, "generally" means "usually." Furthermore, the use of the phrase "according to the nature of the product" indicates that the temperature range may vary. Having regard to subparagraph (B)(iv) and to industry definitions, the Tribunal is of the view that firing occurs as long as the products are heated to a temperature that allows them to develop the necessary bond and other necessary physical and chemical properties. The goods in issue have been fired after shaping, before leaving the plant in the United States. Therefore, they are ceramics within the meaning of Chapter 69. As a result, they are specifically named in heading No. 69.02 and should be classified therein.*

Place of Hearing:	*Ottawa, Ontario*
Date of Hearing:	*September 14, 1994*
Date of Decision:	*December 7, 1994*
Tribunal Members:	*Anthony T. Eyton, Presiding Member* *Raynald Guay, Member* *Desmond Hallissey, Member*
Counsel for the Tribunal:	*Joël J. Robichaud*
Clerk of the Tribunal:	*Anne Jamieson*
Appearances:	*M. Lee Stratton, for the appellants* *Frederick B. Woyiwada, for the respondent*

333 Laurier Avenue West
Ottawa, Ontario K1A 0G7
(613) 990-2452 Fax (613) 990-2439

333, avenue Laurier ouest
Ottawa (Ontario) K1A 0G7
(613) 990-2452 Téléc. (613) 990-2439

CANADIAN INTERNATIONAL TRADE TRIBUNAL
TRIBUNAL CANADIEN DU COMMERCE EXTÉRIEUR

Appeal Nos. AP-94-016 and AP-94-109

**NARCO CANADA INC.,
DIV. OF NORTH AMERICAN REFRACTORIES CO.
AND NORTH AMERICAN REFRACTORIES CO.** **Appellants**

and

THE DEPUTY MINISTER OF NATIONAL REVENUE **Respondent**

TRIBUNAL: ANTHONY T. EYTON, Presiding Member
RAYNALD GUAY, Member
DESMOND HALLISSEY, Member

REASONS FOR DECISION

These are appeals under section 67 of the *Customs Act*[1] (the Act) from decisions of the Deputy Minister of National Revenue made under section 63 of the Act.

The issue in these appeals is whether resin-bonded refractory bricks, resin-bonded refractory continuous-casting components and precast refractory components imported from the United States between May 14, 1991, and December 16, 1992, are properly classified under tariff item Nos. 6815.99.99 and 6810.99.00 of Schedule I to the *Customs Tariff*,[2] as determined by the respondent, or should be classified under tariff item Nos. 6902.10.00 and 6902.20.00, as claimed by the appellants. More specifically, the appellants contend that the resin-bonded refractory bricks, except for those known as Narcarb BSC and NRC 114, should be classified under tariff item No. 6902.10.00 and that the resin-bonded refractory continuous-casting components, except for those known as Marathon MC-120, and the precast refractory components should be classified under tariff item No. 6902.20.00. The appellants contend that Narcarb BSC and NRC 114 should be classified under tariff item No. 6902.20.00 and that Marathon MC-120 should be classified under tariff item No. 6902.10.00. For the purposes of these appeals, the relevant tariff nomenclature reads as follows:

68.10	*Articles of cement, of concrete or of artificial stone, whether or not reinforced.*
	-Tiles, flagstones, bricks and similar articles:
...	
6810.99.00	*--Other*
68.15	*Articles of stone or of other mineral substances (including articles of peat), not elsewhere specified or included.*

1. R.S.C. 1985, c. 1 (2nd Supp.).
2. R.S.C. 1985, c. 41 (3rd Supp.).

333 Laurier Avenue West
Ottawa, Ontario K1A 0G7
(613) 990-2452 Fax (613) 990-2439

333, avenue Laurier ouest
Ottawa (Ontario) K1A 0G7
(613) 990-2452 Téléc. (613) 990-2439

6815.99	*--Other*
6815.99.99	*----Other*
69.02	*Refractory bricks, blocks, tiles and similar refractory ceramic constructional goods, other than those of siliceous fossil meals or similar siliceous earths.*
6902.10.00	*-Containing by weight, singly or together, more than 50% of the elements Mg, Ca or Cr, expressed as MgO, CaO or Cr_2O_3*
6902.20.00	*-Containing by weight more than 50% of alumina (Al_2O_3) of silica (SiO_2) or of a mixture or compound of these products*

Mr. Marty W. Wagenaar, Director of Steel Sales at Narco Canada Inc., Division of North American Refractories Co., testified on behalf of the appellants. He described the goods in issue as low-fired refractories that are used primarily in basic oxygen furnaces, electric arc furnaces, steel ladles and continuous-casting components, into which steel is normally poured during the steelmaking process. Their main function is to keep the heat in the steel to avoid obtaining a defective end product. According to Mr. Wagenaar, the goods in issue are fully manufactured before leaving the plant in the United States. He testified that the goods in issue were introduced into the marketplace in the early 1980s. From that time until early 1992, they were classified as refractories and were imported into Canada duty free. He stated that similar products are not manufactured in Canada. According to Mr. Wagenaar, there are low-fired refractories, normally fired at a temperature of approximately 200°C, and more traditional high-fired refractories fired at temperatures that can reach as high as 1,100 to 1,600°C. He stated that, except for a few mini-mills that still use high-fired refractories in limited applications, steel manufacturers have been using low-fired refractories almost exclusively since the early 1980s.

Dr. Bohus Brezny, Technology Manager of Iron and Steelmaking Refractories at North American Refractories Co., also testified on behalf of the appellants. The Tribunal qualified him as an expert witness with respect to the manufacture, installation and use of refractories in steelmaking applications. He described the goods in issue as non-traditional high-technology refractories.

Dr. Brezny explained that the resin-bonded refractory bricks and the resin-bonded refractory continuous-casting components are produced by blending an aggregate of synthetic sintered magnesia or alumina grains and graphite flakes with a phenol formaldehyde resin binder. The products are mixed together so that the resin coats the grains. At this point, the products are chemically bonded. After mixing, the products are shaped and pressed with high-pressure hydraulic presses. They are then removed from the presses on steel plates and placed in the tunnel kiln, where they undergo a low-temperature firing process of approximately 200°C. During this process, a carbon bond, which Dr. Brezny described as a type of ceramic bond, is created between the magnesia or alumina grains and the graphite flakes.

As a result of the low-temperature firing, all of the volatiles are burnt from the resin binder. Approximately 70 percent of the original resin is transformed into three-dimensional carbon chains, which form molecular bonds between the magnesia or alumina and the graphite flakes. As a result of this diffusion and chemical transformation, the magnesia or alumina grains and the graphite flakes are closely bound together. Dr. Brezny explained that the microstructure of these products remains the same even after they

have been installed in the furnace and exposed to high temperatures. Partial fusion cannot occur in these products because of the presence of the graphite flakes. Once the low-temperature firing process is complete, the products possess all of the desired properties of refractories and are considered a finished product ready for use in steelmaking applications.

The precast refractory components are composed of approximately 99 percent alumina. They are produced by blending alumina grains with a small amount of calcium aluminate cement and a small amount of water. Moisture is removed during a drying process at a temperature of approximately 400°C. As a result, the calcium aluminate cement creates a bond between the alumina aggregates. A calcium aluminate bond, which Dr. Brezny described as another type of ceramic bond, is thus created, and optimal strength is achieved. At this point, the products possess all of the desired properties of refractories and are ready for use in steelmaking applications.

Dr. Brezny also explained that firing does not occur during the first heat in steel furnaces and other installations. The primary function of the "burning-in" process is to avoid spalling of the refractories. During the "burning-in" process, heat is introduced into the furnace or vessel to avoid heat loss when the steel mixture is poured. It is part of the steel manufacturing process and is performed regardless of whether the refractories have been fired at low or high temperatures.

Dr. Brezny testified that, 10 to 15 years ago, refractories were fired at high temperatures to compensate for the use of less sophisticated binders, such as magnesium sulphate, magnesium chloride and several other inorganic binders. Firing at high temperatures caused the magnesia or alumina grains to sinter and, therefore, create a ceramic bond strong enough to handle steelmaking applications. Sintering at high temperatures caused the grains to pack together more tightly, thus creating more dense structures. As a result, the refractories would shrink. If firing at high temperatures was not done and the refractories were placed in a steel vessel or furnace, the refractories would shrink during the "burning-in" process, causing the steel to penetrate through the open spaces. It was, therefore, important to fire at high temperatures to eliminate the problem of shrinkage during the steelmaking process. The goods in issue do not shrink. The graphite flakes separate the magnesia or alumina grains and prevent the sintering of the grains. Indeed, the goods in issue, when installed in the furnace, are subject to intense heat, which causes sufficient thermal expansion to eliminate all cracks or spaces between the refractory bricks.

Dr. Brezny explained that the goods in issue are higher-quality refractories than the traditional high-fired ceramics and that firing the magnesia graphite at higher temperatures can degrade several of the desirable physical and chemical properties of the refractories. The low-temperature-fired refractories are of higher quality than the high-temperature-fired refractories because of higher thermal conductivity and improved thermal-shock resistance and corrosion resistance. They have a longer service life, cost less to produce and perform significantly better than the high-temperature-fired refractories.

Finally, Dr. Michel Rigaud, a professor in the Department of Metallurgical Engineering of the École Polytechnique in Montréal, Quebec, testified on behalf of the appellants. The Tribunal also qualified him as an expert witness with respect to the manufacture and use of refractories in steelmaking applications.

Dr. Rigaud explained that, historically, silicates have been considered the conventional ceramic bond. He testified that there are different types of bonds which occur in refractory

products, all of which have different purposes. Dr. Rigaud also explained that transformation of the resin into a carbon bond takes place during the low-temperature firing. He described this process as the carbonization process of diffusion or chemical transformation. He gave a very broad definition of "ceramics." A "ceramic" is everything that is not a "metal" or a "polymer." Furthermore, to be considered a ceramic, it is not necessary that a ceramic or conventional silicate bond be created. According to Dr. Rigaud, the goods in issue are ceramics. They are also refractories, as they possess all of the necessary attributes of strength and resistance to thermal shock and corrosion.

Dr. Rigaud also explained that, traditionally, firing occurred at a temperature in the range of approximately 800 to 1,800°C. This was the temperature needed to create a silicate bond. Today, however, with new technology, refractories can obtain all of the desired properties when fired at lower temperatures. The goods in issue are fired before they are installed in the furnaces used in steelmaking applications and before they undergo the "burning-in" process.

Dr. A.K. Kuriakose, Research Scientist, Ceramic Section, Mineral Processing Laboratory, Canada Centre for Mineral and Energy Technology of the Department of Natural Resources, testified on behalf of the respondent. The Tribunal qualified him as an expert witness with respect to ceramics and high-temperature chemistry.

According to Dr. Kuriakose, a ceramic is an inorganic, non-metallic material processed or fired at high temperatures. The materials are fired at high temperatures to create ceramic bonds. Ceramic bonds are atomic bonds that are continuous and that can be formed not only with silicates but also with other materials, such as alumina and silicone carbide. These ceramic bonds give the product the stability, the strength and the hardness that it needs to be considered a ceramic. Dr. Kuriakose was of the view that carbon bonds are not ceramic bonds in the traditional definition of the term. He acknowledged that inorganic, non-metallic materials are generally defined as being ceramics, but stated that there is a dispute with respect to applying the term "ceramic" to any such materials in the absence of high-temperature firing.

Drawing the Tribunal's attention to a statement in Dr. Brezny's report that the resin-bonded refractories are bound together by residual "glassy" carbon at temperatures above 500°C as a result of diffusion and chemical transformation, Dr. Kuriakose stressed that the heating process that the goods in issue undergo before importation cannot be considered "firing." Furthermore, there is no evidence that there is any ceramic bond formed that would allow the goods in issue to be considered ceramics in the traditional definition of the term. He did admit, however, during cross-examination, that the goods in issue perform as refractories and that there are certain products that obtain all of the desired properties of ceramics, even though they are fired at temperatures outside the range of 800 to 1,800°C.

Counsel for the appellants referred to Rule 1 of the General Rules for the Interpretation of the Harmonized System[3] (the General Rules) and argued that the goods in issue should be classified in heading No. 69.02, as they fall clearly within the definition of the goods described in that heading. The goods in issue are "[r]efractory bricks." They are also ceramic products which have been fired after shaping, before importation. Therefore, they are not excluded from Chapter 69 pursuant to Note 1 of the Explanatory Notes

3. *Ibid.*, Schedule I.

to the Harmonized Commodity Description and Coding System[4] (the Explanatory Notes) to that Chapter.

Counsel for the appellants also referred to the meaning given to the term "firing" in subparagraph (B)(iv) of the Explanatory Notes to Chapter 69. He argued that section 11 of the *Customs Tariff*, which provides that "[i]n interpreting the headings and subheadings in Schedule I, regard shall be had to the ... Explanatory Notes," does not give the Explanatory Notes any special status and that, accordingly, they should be given little weight as they are seriously out of date. If the Tribunal decides that they should be given weight, then it is submitted that they should be interpreted to mean that firing temperatures may vary and that they are selected by reference to the products being fired.

Counsel for the appellants argued that "firing" is part of the manufacturing process of the goods in issue. Relying on dictionary and industry definitions of the term, he argued that firing is simply an application of heat in the manufacturing process of refractories, the purpose of which is to develop a bond and other necessary physical and chemical properties. He noted that modern definitions do not specify that firing only occurs within a certain temperature range. Furthermore, the Explanatory Notes to Chapter 69 simply mention that, to be fired, "the 'green ware' is heated to a temperature generally ranging from 800 to 1,800°C or higher according to the nature of the product." The use of the term "generally" and of the phrase "according to the nature of the product" indicates that the firing temperature may vary and contemplates that there may be exceptions. Counsel argued that the evidence shows that the goods in issue are exceptions. They acquire all of the necessary properties of refractories when fired at lower temperatures. During the firing process, the magnesia or alumina grains are closely bound together as a result of diffusion and chemical transformation. The requirement of the Explanatory Notes is therefore met. The use of the disjunctive "or" indicates that partial fusion is not required in order for the goods to be classified in Chapter 69. Consequently, a traditional ceramic bond does not need to be formed in order for the goods in issue to be considered ceramics.

Counsel for the appellants submitted that the evidence shows that the resin-bonded refractory bricks and the resin-bonded refractory continuous-casting components are not "[a]rticles of stone or of other mineral substances." As a result, they should not be classified in heading No. 68.15. They are produced from synthetic products and not from naturally occurring mineral substances. Counsel also submitted that the evidence shows that the precast refractory components are not "[a]rticles of cement, of concrete or of artificial stone." As a result, they should not be classified in heading No. 68.10. They contain at least 97 percent synthetic alumina and approximately 1 to 2 percent calcium aluminate cement which simply acts as a binder. They do not contain any concrete or artificial stone, and are inorganic and non-metallic. Counsel argued that heading No. 68.10 provides for the classification of building and construction products and that the goods in issue are clearly not construction bricks. Rather, they are refractory bricks and ceramics that are fully manufactured before leaving the plant in the United States and should, therefore, be classified as such.

Counsel for the respondent argued that the onus is on the appellants to show that the goods in issue have been classified incorrectly. Counsel acknowledged that the goods in issue are refractories. He argued, however, that, to be classified in heading No. 69.02, they must also be ceramics. They can only be classified

4. Customs Co-operation Council, 1st ed., Brussels, 1986.

as ceramics if they have been fired after shaping. The firing process produces the fusion that forms a ceramic bond. Relying on subparagraph (B)(iv) of the Explanatory Notes to Chapter 69, counsel argued that, although the goods in issue are heated after shaping, before importation, they are not fired because they are not heated to a temperature ranging from 800 to 1,800°C. Rather, the goods in issue are fired when they undergo the "burning-in" process in the furnaces in which they are installed, where they are heated to a temperature ranging from 1,000 to 1,700°C. The goods in issue are, therefore, not ceramics at the time of importation. Consequently, they should not be classified in any of the headings of Chapter 69. Furthermore, the evidence shows that a carbon bond is not a ceramic bond. For this reason also, counsel argued that the goods in issue are not ceramics.

Counsel for the respondent submitted that heading Nos. 68.15 and 68.10 accurately describe the goods in issue and that, as a result, they are properly classified. More specifically, the resin-bonded refractory bricks and the resin-bonded refractory continuous-casting components are "[a]rticles of stone or of other mineral substances." There is no requirement that the mineral substances be naturally occurring. Rather, this heading provides for the classification of synthetic products, which are processed from other materials. Noting that Dr. Rigaud testified that the resin-bonded refractories are composed primarily of minerals, counsel argued that paragraph (5) of the Explanatory Notes to heading No. 68.15, which provides that the heading covers "[b]ricks and other shapes (in particular magnesite or chrome-magnesite products), chemically bonded but not yet fired," and that "[t]hese articles are fired during the first heating of the furnace in which they are installed," accurately describes the resin-bonded refractories at the time of importation. Finally, counsel argued that the precast refractory components are clearly "[a]rticles of ... concrete," as they are composed of aluminate cement and of a mineral aggregate.

At the outset of the hearing, counsel for the respondent conceded that certain of the resin-bonded refractory continuous-casting components, more specifically those known as Nargon A621, WO3182, WO2621 and Nargon A94, should be classified under tariff item No. 6902.20.00, and the Tribunal agreed.

When classifying goods in Schedule I to the *Customs Tariff*, the application of Rule 1 of the General Rules is of the utmost importance. This Rule states that classification is first determined according to the terms of the headings and any relative Chapter Notes. Therefore, the Tribunal must first determine whether the goods in issue are named or generically described in a particular heading of Schedule I to the *Customs Tariff*. If the goods are named in a heading, they are to be classified therein subject to any relative Chapter Note. If not, the Tribunal must give consideration to any heading in which the goods could fall.[5]

Heading No. 69.02 provides for the classification of "[r]efractory bricks, blocks, tiles and similar refractory ceramic constructional goods, other than those of siliceous fossil meals or similar siliceous earths." Both counsel for the appellants and counsel for the respondent agreed that the goods in issue are refractory bricks. Having considered the evidence, the Tribunal is of the same view. The evidence clearly shows that the goods in issue possess all of the necessary attributes of refractory bricks and that they are used as such in steelmaking applications. However, in order for the Tribunal to decide that the goods in issue are named in heading No. 69.02, it must also be satisfied that they are ceramic products. Furthermore, to be classified in heading No. 69.02, Note 1 of the Explanatory Notes to Chapter 69 provides that the goods must be "ceramic products which have been fired after shaping."

---

5. See, for example, *York Barbell Co. Ltd. v. The Deputy Minister of National Revenue for Customs and Excise*, Canadian International Trade Tribunal, 5 T.C.T. 1150, Appeal No. AP-91-131, March 16, 1992.

Drs. Brezny, Rigaud and Kuriakose all agreed that, to be considered a ceramic, a product must be fired. They differed, however, with respect to the meaning of the term "fired" and with respect to the appropriate temperature at which a product must be heated so that firing may occur and that the product may be considered a ceramic. In addressing these issues, the Tribunal referred to the Explanatory Notes to Chapter 69. The Tribunal has stated in previous decisions[6] that section 11 of the *Customs Tariff* makes it mandatory for the Tribunal to have regard to the Explanatory Notes in interpreting the headings of Schedule I to the *Customs Tariff*. The Tribunal, therefore, does not find persuasive the argument of counsel for the appellants that the Explanatory Notes should be given little weight.

More specifically, the Tribunal referred to subparagraph (B)(iv) of the Explanatory Notes to Chapter 69, which provides that, "[i]n this operation, the 'green ware' is heated to a temperature generally ranging from 800 to 1,800°C or higher according to the nature of the product" and that, "[a]fter firing, the grains are closely bound together as a result of diffusion, chemical transformation or partial fusion." In determining the meaning of the term "firing," the Tribunal found industry definitions very persuasive. Relying on these definitions, the Tribunal is of the view that the "firing" of refractories is the "final heat treatment in a kiln to which refractory brick and shapes are subjected in the process of manufacture for the purpose of developing bond and other necessary physical and chemical properties.[7]" It is "[t]he controlled heat treatment of ceramic ware in a kiln or furnace, during the process of manufacture, to develop the desired properties.[8]" Finally, it is also the "[h]eat treatment of a shaped refractory material to produce mechanical strength and other necessary properties.[9]"

It is important to note that none of the above industry definitions specify a temperature range within which firing must occur. Furthermore, subparagraph (B)(iv) of the Explanatory Notes to Chapter 69 uses the word "generally" in describing the temperature range. In the Tribunal's view, "generally" means "usually." Furthermore, the use of the phrase "according to the nature of the product" indicates that the temperature range may vary. Having regard to subparagraph (B)(iv) and to the above industry definitions, the Tribunal is of the view that firing occurs as long as the products are heated to a temperature that allows them to develop the necessary bond and other necessary physical and chemical properties.

In the present case, the evidence of Drs. Brezny and Rigaud shows that heating the resin-bonded refractory bricks and the resin-bonded refractory continuous-casting components to a temperature of approximately 200°C transforms the resin binder into three-dimensional carbon chains that are inorganic and non-metallic. These chains, in turn, form bonds between the magnesia or alumina grains. The grains are closely bound together as a result of diffusion and chemical transformation. Partial fusion does not occur because of the presence of the graphite flakes. In the Tribunal's view, the requirement of subparagraph (B)(iv) of the Explanatory Notes to Chapter 69 is met. The use of the disjunctive "or" indicates that partial

---

6. *Ibid*.
7. 1989 Annual Book of ASTM Standards, The American Society for Testing and Materials (Philadelphia, 1989), Standard C. 71-88 "Standard Definitions of Terms Relating to Refractories;" and Modern Refractory Practice, 5th ed. (Pittsburgh: Harbison-Walker Refractories Company, 1992).
8. Ceramic Glossary (Columbus: American Ceramic Society, 1984) at 33.
9. ISO Recommendation R 836, Vocabulary for the Refractories Industry, 1st ed. (Switzerland: International Organization for Standardization, 1968).

fusion is not required in order for the goods in issue to be classified in Chapter 69. The evidence also shows that, after firing, the goods have been fully manufactured and that they possess all of the necessary physical and chemical properties of refractories. They do not undergo any further manufacturing process once they are installed in the furnace for steelmaking applications, nor do they exhibit any change in their microstructure after being exposed to high temperatures in the furnace. Accordingly, the Tribunal finds that the resin-bonded refractory bricks and the resin-bonded refractory continuous-casting components have been fired after shaping, before leaving the plant in the United States, and that they are, therefore, ceramics within the meaning of Chapter 69. As a result, the Tribunal finds that they are specifically named in heading No. 69.02.

The evidence of Dr. Brezny shows that heating the precast refractory components to a temperature of approximately 400°C creates a calcium aluminate bond between the alumina grains, allowing the products to achieve optimal strength. The grains are closely bound together as a result of diffusion and chemical transformation. At this point, the products possess all of the desired properties of refractories and are ready to be used in steelmaking applications. They do not undergo any further manufacturing process once they are installed in the furnace for steelmaking applications, nor is there any change in their microstructure after being exposed to high temperatures in the furnace. Accordingly, the Tribunal finds that the precast refractory components have also been fired after shaping, before leaving the plant in the United States, and that they are, therefore, ceramics within the meaning of Chapter 69. As a result, the Tribunal finds that they are specifically named in heading No. 69.02.

More particularly, having considered the evidence of the appellants as to the composition of the goods in issue, the Tribunal finds that resin-bonded refractory bricks known as Narez, Narez AM5, BOF 811, BOF 812, BOF 821, BOF 831, WO 3029, WO 3063, Cardic MR5, Cardic MR20, Cardic MR25, Cardic MR30, Cardic HMR15E3C, Cardic HMR15E5C, Cardic SMR10C and Quantum R5X6B, and resin-bonded refractory continuous-casting components known as Marathon MC-120 should be classified under tariff item No. 6902.10.00. The Tribunal also finds that resin-bonded refractory bricks known as Narcarb BSC and NRC 114, resin-bonded refractory continuous-casting components known as Marathon AC-021, RMC-AB-751, RMC-AC-801, Nargon A621, Marathon AC-817, WO3182, WO2621 and Nargon A94, and precast refractory components known as WO2560 should be classified under tariff item No. 6902.20.00.

The Tribunal notes that Chapter 68 of Schedule I to the *Customs Tariff* appears to provide for the classification of ordinary construction products. The goods in issue are clearly not used as such. In the Tribunal's view, they are clearly not "[a]rticles of cement, of concrete or of artificial stone, whether or not reinforced," or "[a]rticles of stone or of other mineral substances (including articles of peat), not elsewhere specified or included." They should, therefore, be classified in Chapter 69.

For these reasons, the appeals are allowed.

Anthony T. Eyton

Anthony T. Eyton

Presiding Member

Raynald Guay
Raynald Guay
Member

Desmond Hallissey
Desmond Hallissey
Member