U.S. Court of Appeals for the Federal Circuit

TYCO FIRE PRODUCTS, LIMITED PARTNERSHIP, Plaintiff-Appellant v. UNITED STATES, Defendant-Appellee

Appeal No. 2015–1968, 2015–1969

Appeals from the United States Court of International Trade in Nos. 1:08-cv-00190-JAR, 1:08-cv-00194-JAR, Senior Judge Jane A. Restani.

Dated: November 18, 2016

MICHAEL EDWARD ROLL, Pisani & Roll PLLC, Los Angeles, CA, argued for appellant.

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Before PROST, Chief Judge, DYK, and STOLL, Circuit Judges.

DYK, *Circuit Judge*.

Tyco Fire Products L.P. ("Tyco") appeals a decision of the U.S. Court of International Trade ("CIT"), which granted the government's motion for summary judgment. The CIT held that Tyco's imported goods were properly classified under subheading 7020.00.60 of the Harmonized Tariff Schedule of the United States ("HTSUS"). *Tyco Fire Prods. L.P. v. United States*, 82 F. Supp. 3d 1340, 1350 (Ct. Int'l Trade 2015) ("Summary Judgment Op."). We affirm.

BACKGROUND

The issue in this case is the proper classification of certain liquid-filled glass bulbs according to the HTSUS. Each bulb consists of a sealed, hollow glass tube that is filled with colored liquid and an air bubble. A bulb of this type is commonly used as a temperature-dependent trigger component of fire sprinkler heads. Used in this context, the bulb is installed into a sprinkler head, which acts as a valve, such that the bulb is positioned to hold the valve closed and prevent water from being released. When the sprinkler head is exposed to fire, the bulb is heated and the liquid inside the bulb expands until the bulb ultimately shatters. When the bulb breaks, the valve of the sprinkler system opens and releases a shower of water intended to extinguish the fire.

Tyco's bulbs can also be used in water heaters. As used in that context, the bulb is positioned to hold open a door to a water heater combustion chamber, which allows air to flow into the chamber. When the temperature rises to a particular threshold, the bulb shatters, forcing the door shut and thereby cutting off the air supply to the combustion chamber, extinguishing the flame.

Tyco purchased the bulbs from two German manufacturers, Job GmbH ("Job") and Geissler Glasinstrumente GmbH ("Geissler"). Between 2004 and 2006, Tyco imported 42 different models of bulbs into the United States. Of these models, Tyco used 39 in fire sprinkler systems. Tyco used the other 3 models as thermal release devices in water heaters.

The temperature threshold, or activation temperature, at which the bulb breaks corresponds to the temperature rating for that model of bulb. Different models of bulbs are designed to break at different temperatures, and the temperature rating of each bulb is indicated by a colored dye in the liquid. The liquid inside the Geissler bulbs is triethylene glycol. The composition of the liquid inside the Job bulbs is proprietary to Job. Other relevant qualities of the bulb models include their response time index, which relates to the amount of time required for the bulb to reach its activation temperature; structural strength; and compatibility with environmental conditions.

U.S. Customs and Border Protection ("Customs") classified the bulbs as "other articles of glass" under HTSUS subheading 7020.00.60 ("Heading 7020"), which has a 5% rate of duty. Tyco protested Customs' ruling and requested further review, asserting that the bulbs are more properly classified under subheading 8424.90.90, which includes "Other" "Parts" of goods classified under heading 8424 and is duty-free.[1] Customs denied Tyco's protest, and Tyco appealed to the CIT.[2]

On summary judgment, the CIT agreed with Customs and held that the bulbs are properly classified as articles of glass under Heading 7020. The court recognized that Chapter Note 1(c) to Chapter 84 excludes from that chapter "other articles for technical uses or parts thereof, of glass (heading 7019 or 7020)." Consulting the Explanatory

[1] Heading 8424 includes "[m]echanical appliances . . . for projecting, dispersing or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; . . . parts thereof." HTSUS, 84–30 (2004).

[2] At the CIT and on appeal, Tyco asserts that the three bulb models used in water heaters should be classified under a different subheading of HTSUS Chapter 84, subheading 8419.90.10, as "[p]arts: [o]f instantaneous or storage water heaters." HTSUS, 84–24 (2004). Because we affirm CIT's holding that all of the bulbs are properly excluded from Chapter 84 and have the essential character of glass, our analysis is the same with respect to both of Tyco's proposed subheadings.

Notes ("EN") to Chapter 84 of the Harmonized Commodity Description and Coding System ("HS"), of which the HTSUS is an embodiment, *see Pima W., Inc. v. United States*, 915 F. Supp. 399, 402 (Ct. Int'l Trade 1996), the court determined that the bulbs are "of glass" within the meaning of the exclusion and, therefore, they are not classifiable under that chapter.

The court rejected Tyco's assertion that the bulbs fall within exceptions to the exclusion as set forth in the EN to Chapter 84. Specifically, the EN provides:

> [T]he following are, as a rule, to be taken to have lost the character . . . of glass:
>
> (i) Combinations of . . . glass components with a high proportion of components of other materials (e.g., of metal); also articles consisting of a high proportion of . . . glass components incorporated or permanently mounted in frames, cases or the like, of other materials.
>
> (ii) Combinations of static components of . . . glass with mechanical components such as motors, pumps, etc., of other materials (e.g., of metal).

EN Ch. 84 at 1393 (EN/AS 5, Feb. 2004). The court determined that the bulbs do not contain a "high proportion" of non-glass material and that the bulbs do not comprise both a static and a mechanical component. The court also consulted the ENs to Chapter 70 and Heading 7020 and determined that the bulbs have the essential character of glass, and therefore they are properly classified under Heading 7020. Tyco appeals. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(5).

DISCUSSION

We review the CIT's grant of summary judgment in a customs classification case *de novo*. *Rubie's Costume Co. v. United States*, 337 F.3d 1350, 1354 (Fed. Cir. 2003).The classification of an item under the headings of the HTSUS involves a two-step process. *Alcan Food Packaging (Shelbyville) v. United States*, 771 F.3d 1364, 1366 (Fed. Cir. 2014). First, the court determines the meaning of the heading terms, and we review this issue of law without deference. *Id.* Second, the court determines whether the item falls within the scope of the heading terms, and we review this finding of fact for clear error. *Id.*

"The HTSUS General Rules of Interpretation (GRI)and the Additional U.S. Rules of Interpretation (U.S. GRI)govern the proper classification of all merchandise and are applied in numerical order." *Carl Zeiss, Inc. v. United States*, 195 F.3d 1375, 1379 (Fed. Cir. 1999).

According to GRI 1, "a court first construes the language of the heading, and any section or chapter notes in question, to determine whether the product at issue is classifiable under the heading." *Orlando Food Corp. v. United States*, 140 F.3d 1437, 1440 (Fed. Cir. 1998). Chapter Notes are legally binding. *Arko Foods Int'l, Inc. v. United States*, 654 F.3d 1361, 1364 (Fed. Cir. 2011). "Absent contrary legislative intent, HTSUS terms are to be construed according to their common and commercial meanings, which are presumed to be the same. A court may rely upon its own understanding of the terms used and may consult lexicographic and scientific authorities, dictionaries, and other reliable information sources." *Carl Zeiss*, 195 F.3d at 1379.

I

Tyco first asserts that the CIT erred in holding that Chapter Note 1(c) excludes the bulbs from Chapter 84. Note 1(c) to Chapter 84 provides: "1. This chapter does not cover: . . . (c) Laboratory glassware (heading 7017); machinery, appliances or other articles for technical uses or parts thereof, of glass (heading 7019 or 7020); . . . ." HTSUS, 84–1 (2004).

As an initial matter, we agree with the CIT that the bulbs are "of glass" for purposes of Note 1(c). As we discuss below, the bulbs have the essential character of glass and are properly classifiable under Heading 7020. This determination is sufficient to establish that each bulb has the "the character of an article . . . of glass" for purposes of Note 1(c) unless the bulb has "lost the character . . . of glass" by virtue of one of the exceptions described in the EN. EN Ch. 84 at 1393 (EN/AS 5, Feb. 2004). While the ENs are not controlling, "they do offer guidance in interpreting [HTSUS] subheadings." *Lonza, Inc. v. United States*, 46 F.3d 1098, 1109 (Fed. Cir. 1995). Both parties agree that we should look to the ENs in this case. Tyco and the government focus their dispute regarding Note 1(c) on whether the bulbs are encompassed by either the "high proportion" or the static and mechanical component exceptions identified in the EN. Tyco argues that the bulbs fall within the EN exceptions because the bulbs include a high proportion of non-glass material and are each a combination of static and mechanical components. Tyco argues that they are, therefore, outside the exclusion for "articles of technical uses or parts thereof, of glass" and are classifiable under Chapter 84.

A

As the CIT held, the bulbs do not fall under the EN exception to Chapter 84 Note 1(c) for "[c]ombinations of static components of . . . glass with mechanical components" because they do not contain any

mechanical components within the meaning of the EN. EN Ch. 84 at 1393. Tyco asserts that the liquid inside the bulbs performs a physically mechanical function when the liquid expands in response to heat and exerts pressure on the glass, causing the glass to shatter. Tyco cites to the online Oxford Dictionary, https://en.oxforddictionaries.com/definition/us/mechanical, for the proposition that "mechanical" means "[r]elating to physical forces or motion." However, this source also defines the term to mean "[w]orking or produced by machines or machinery" and "[r]elating to machines or machinery." *Id.*; *see also* Webster's Third New International Dictionary (Unabridged) 1400 (1981) ("1 a : of, relating to, or concerned with machinery or tools").

Importantly, Tyco's interpretation of "mechanical" is inconsistent with the examples of mechanical components listed in the EN, "such as motors, pumps, etc., of other materials (e.g., of metal)," EN Ch. 84 at 1393, which, by the interpretive canon of *ejusdem generis*, indicate that "mechanical components" means machinery. *See Archer Daniels Midland Co. v. United States*, 561 F.3d 1308, 1313 (Fed. Cir. 2009) ("[I]t is well settled that when a list of items is followed by a general word or phrase, the rule of *ejusdem generis* is used to determine the scope of the general word or phrase." (citation omitted)).

B

The other exception is for articles of glass that have "a high proportion of components of other materials" relative to the glass component. EN Ch. 84 at 1393. The parties both address "high proportion" in terms of relative weight.[3] It is undisputed that, depending on the bulb model, the liquid component comprises 16–31% of the total weight of the bulb, with the glass component comprising the remainder. Accordingly, we must determine the meaning of the term, "high proportion."

As the CIT noted, neither the EN nor the HTSUS defines "high proportion." The CIT looked for guidance in the Explanatory Notes to the Brussels Tariff Nomenclature ("BTN"), and the government urges that we do so as well. The BTN was an international tariff classification system that preceded the HS. The CIT pointed out that Chapter 84 to the BTN had an exclusionary Note 1(c),excluding "machinery and appliances and parts thereof, of glass," that was similar to the current Note 1(c) of Chapter 84 of the HTSUS. J.A. 758; *see* Summary Judgment Op. at 1347. In 1970, the Nomenclature Committee

[3] To the extent that Tyco also argues that the liquid component plays a critical role in the function of the bulbs, we *see* no basis for such a qualitative analysis in determining whether the bulbs contain a high proportion of liquid.

amended the Explanatory Note to BTN Chapter 84 to include language that is, in relevant part, identical to the language of the current EN to Chapter 84 as reproduced above. It appears that a motivation for the 1970 amendment was to provide that "the distinguishing criteria laid down in [BTN] Explanatory Note 90.25 should also apply to the machines and appliances of" BTN Chapter 84.[4] J.A. 764. The Explanatory Note to BTN Chapter 90.25, in turn, provided that "instruments normally cease to have the essential character of glassware when they consist partly of glass but are **mainly** of other materials." J.A. 777.

The CIT concluded from this "history behind the EN" that the "high proportion" language of the current EN to Chapter 84 should be interpreted to mean "mainly." Summary Judgment Op. at 1347. The court held that Tyco's bulbs, which consist of up to 31% of liquid by weight, did not consist "mainly of liquid rather than of glass," and therefore, they did not have a high proportion of liquid. *Id.*

The government urges that this analysis is correct, but provides no explanation as to why the BTN Explanatory Notes—and any amendments thereto—should be treated as a form of legislative history to the current HTSUS. Certainly, prior to 1989, when the Tariff Schedules of the United States ("TSUS") was in effect, *see* Omnibus Trade and Competitiveness Act of 1988, Pub L. No. 100–418, 102 Stat. 1107, 1148, 1163 (1988), the BTN was viewed as a source of legislative history to aid in interpreting the TSUS. *See, e.g.*, *W. Bend Co. v. United States*, 892 F.2d 69, 71–72 (Fed. Cir. 1989) ("[T]he *Brussels Nomenclature*. . . may be treated as legislative history to the [TSUS] provisions where the language of the tariff provision and a *Brussels* section is very similar.").But the TSUS is no longer in effect, and therefore, the extent to which the BTN remains a relevant source of interpretive guidance is not clear. Shortly after the HTSUS was implemented, in 1989, the U.S. Customs Service issued a "Guidance for Interpretation of Harmonized System," ("Guidance") which set forth its views on the weight to be afforded the Explanatory Notes of the BTN. 54 Fed. Reg. 35,127 (Aug. 23, 1989). The Guidance, to which the government did not call to our attention, explained that the HS replaced the Customs Cooperation Council Nomenclature ("CCCN"), which was "first known as the" BTN. *Id.* at 35,128. The Guidance stated that "[t]he CCCN ENs have no value in interpreting the HS. They are the ENs to a different system; one which is now virtually

[4] The Nomenclature Committee originally intended that the new language would be inserted in the Explanatory Notes to BTN Section XVI, which encompassed Chapter 84, *see* J.A. 764, but ultimately decided to insert the language into the Explanatory Note to Chapter 84 specifically, *see* J.A. 765–70.

nonexistent since most nations have adopted the HS." *Id.* The Guidance further explained,

> [w]hen the HS was drafted it was decided to prepare an entirely new convention to implement it. It was the intention of the [Harmonized System Committee] to start anew; to have a new convention unencumbered by the many years of action by the Nomenclature Committee. Although the HSis primarily based on the CCCN, it is a new and different nomenclature with a convention that provides for substantial difference in its voting membership.

Id. at 35,129.

We need not decide, however, whether the BTN provides relevant guidance as to the meaning of the HTSUS, for we conclude that a different—and governing—interpretative methodology ultimately leads to the same result. Dictionary definitions of the word "proportion," previous to 1989 when the HTSUS was adopted, generally defined that term to mean "ratio."[5] *See* McGraw-Hill Dictionary of Scientific and Technical Terms 1507 (4th ed. 1989) ("The proportion of two quantities is their ratio."); Webster's New World Dictionary: Third College Edition 1079 (1988) ("proportion 1 the comparative relation between parts, things, or elements with respect to size, amount, degree, etc.; ratio"); 2 Webster's Third New International Dictionary 1819 (1986) ("proportion: 1 a : the relation of one part to another or to the whole with respect to magnitude, quantity, or degree : relative size : ratio"). These definitions suggest that, absent clarifying context, a "high proportion" of one component of a greater whole means that there exists a high ratio of that component compared to the other components. Where, as here, there are only two components, (*i.e.*, the liquid component and the glass component), a high proportion or ratio of one component generally means that the component accounts for more than 50% of the whole.

We do not suggest that "high proportion" means greater than 50% in all situations. This would not be the case where there are more than two components. There are also situations where comparison to past or common practice would support an interpretation of "high proportion" meaning something less than 50% for a two-component whole. For instance, Tyco points to the EN to heading 4017, where the EN to that heading provides that "[h]ard rubber . . . is obtained by vulcanising rubber with a high proportion (more than 15 parts per

[5] We appropriately may take notice of dictionary definitions when construing terms of the HTSUS and its notes. *See Warner-Lambert Co. v. United States*, 407 F.3d 1207, 1209 (Fed. Cir. 2005).

hundred parts of rubber) of combined sulfur." EN Heading 4017 at 775 (EN/AS 2, Aug. 2002). This appears to be a situation in which in practice the proportion of sulfur is always less than the proportion of rubber and "high proportion" is used apparently to refer to the high end of what is normal. But this case is not a situation where there is additional context suggesting that we should ascribe a different meaning to "high proportion." Here, 31% by weight of the liquid component does not constitute a "high proportion" as set forth in the EN to Chapter 84.

Accordingly, because the bulbs are "of glass" within the meaning of Chapter Note 1(c) and they do not fall within either exception identified in the EN, they are not properly classifiable under Chapter 84.

II

Having concluded that the bulbs are not classifiable under Chapter 84, we now determine whether Customs properly classified the bulbs under Heading 7020. The EN to Heading 7020 explains, "[t]his heading covers glass articles (including glass parts of articles) **not covered** by other headings of this Chapter or of other Chapters of the Nomenclature. These articles remain here even if combined with materials other than glass, **provided** they retain the *essential character* of glass articles." EN Heading 7020 at 1178 (2002) (italicization added). Because the bulbs each have a glass component that is combined with a liquid component, we must determine whether the glass component or the liquid component imparts the bulbs' essential character. We agree with the CIT that the bulb shave the essential character of glass.

The parties agree that the essential character test set forth in the EN to Heading 7020 is analogous to the essential character test typically performed pursuant to GRI 3(b).[6] Although "essential character" is not defined in the GRIs, the EN to GRI 3(b) provides, "[t]he factor which determines essential character will vary as between different kinds of goods. It may, for example, be determined by the nature of the material or component, its bulk, quantity, weight or value, or by the role of a constituent material in relation to the use of the goods." EN GRI at 4 (2002); *see also Home Depot, U.S.A., Inc. v. United States*, 427 F. Supp. 2d 1278, 1293 (Ct. Int'l Trade 2006)

[6] GRI 3 provides:

> When . . . goods are, prima facie, classifiable under two or more headings, classification shall be effected as follows: . . . (b) Mixtures, composite goods consisting of different materials or made up of different components . . . shall be classified as if they consisted of the material or component which gives them their *essential character*, insofar as this criterion is applicable.

HTSUS, GN-1 (2004) (emphasis added).

(identifying "other possible considerations" such as "ordinary common sense" and the article's recognized names, invoice and catalogue descriptions, size, primary function, and uses), *aff'd*, 491 F.3d 1334 (Fed. Cir. 2007).One component can impart the article's essential character even if two components are both indispensable to the use of the article. *See Alcan*, 771 F.3d at 1367.

While we recognize Tyco's engineer's testimony that the liquid component is "the brains behind the operation" of the triggers, Tyco Br. at 8 (internal quotation marks omitted), we agree with the CIT's determination that both the glass and the liquid components "play critical roles in the proper functioning of the filled bulb," in view of "primary considerations . . . includ[ing] 1) the response time required, 2) the load the filled bulb will have to bear, 3) the environmental conditions the bulb will be placed into, and 4) the temperature rating." Summary Judgment Op. at 1349. Turning to other factors for determining essential character, the evidence shows that for each bulb model the glass weighs more than the liquid. Tyco concedes that the relative weight factor favors the government. The glass is also the more expensive component in all of the imported bulbs except the smallest models and the water heater models. Furthermore, as Tyco admits, the bulbs are sometimes referred to as "glass bulbs," and much of the packaging and marketing materials in the record use similar terminology. *See La Crosse Tech., Ltd. v. United States*, 723 F.3d 1353, 1361 (Fed. Cir. 2013)(considering the name of the devices in determining their essential character); *United China & Glass Co. v. United States*, 293 F. Supp. 734, 737 (Cust. Ct. 1968) ("[I]t is not uncommon that an article is called by the name denoted by its essential character . . . ."). Finally, as the CIT noted, Congress amended the HTSUS in 2006 to create a temporary duty-free subheading specifically encompassing the types of bulbs at issue. *See* Tax Relief and Health Care Act of 2006, Pub. L. No. 109–432, § 1331, 120 Stat. 2922, 3124. The temporary subheading also referred to the items as "[l]iquid-filled glass bulbs." *See id.* ("9902.24.26: Liquid-filled glass bulbs designed for sprinkler systems and other release devices (provided for in subheading 7020.00.60)").[7]

In light of this evidence, we *see* no error in the CIT's conclusion that the bulbs have the essential character of glass and are properly classified under Heading 7020.

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[7] The subheading, which was later increased to a 0.9% rate of duty, expired entirely in 2012. *See* United States Manufacturing Enhancement Act of 2010, Pub. L. No. 111–227, § 3001(b)(10), 124 Stat. 2409, 2476.

CONCLUSION

For the foregoing reasons, we conclude that the bulbs are excluded from Chapter 84 and are properly classifiable under Heading 7020 of the HTSUS.

AFFIRMED

COSTS

Costs to the United States.