



**UNITED STATES DEPARTMENT OF COMMERCE**  
**International Trade Administration**  
Washington, D.C. 20230

A-570-967

C-570-968

Scope Inquiry/Heat Sinks for LED Light Bars

**Public Version**

E&C III: LRL

November 24, 2014

**MEMORANDUM TO:** Christian Marsh  
Deputy Assistant Secretary  
for Antidumping and Countervailing Duty Operations

**THROUGH:** Melissa G. Skinner  
Director, Office III  
Antidumping and Countervailing Duty Operations

Erin Begnal  
Program Manager, Office III  
Antidumping and Countervailing Duty Operations

**FROM:** Laurel LaCivita  
Senior International Trade Analyst, Office III  
Antidumping and Countervailing Duty Operations

**RE:** Antidumping and Countervailing Duty Orders on Aluminum  
Extrusions from the People's Republic of China

**SUBJECT:** Final Scope Ruling on ECCO's Heat Sinks For LED Light Bars

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**SUMMARY**

On November 13, 2012, the Department of Commerce ("Department") received a letter from ECCO, the North American Division and headquarters of the ECCO Group ("ECCO"), requesting the Department to determine whether certain heat sinks for light-emitting-diode ("LED") light bars are subject to the antidumping ("AD") and countervailing duty ("CVD") *Orders*<sup>1</sup> on aluminum extrusions from the People's Republic of China ("PRC").<sup>2</sup> On June 21,

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<sup>1</sup> See *Aluminum Extrusions from the People's Republic of China: Antidumping Duty Order*, 76 FR 30650 (May 26, 2011) ("AD Order") and *Aluminum Extrusions from the People's Republic of China: Countervailing Duty Order*, 76 FR 30653 (May 26, 2011) ("CVD Order") (collectively, "Orders").

<sup>2</sup> See letter from ECCO entitled, "Application for Scope Ruling in A-570-967 and C-570-968," dated November 13, 2012 ("ECCO's Original Scope Ruling Request").



2013, the Department initiated a formal scope inquiry on heat sinks for LED light bars pursuant to 19 CFR 351.225(e).<sup>3</sup> On the basis of our analysis in accordance with 19 CFR 351.225(k)(1) of the information contained in ECCO's submissions, the comments received, and U.S. International Trade Commission's ("ITC") final injury determination regarding certain aluminum extrusions from the PRC, we determined the heat sinks for LED light bars described in ECCO's scope request are within the scope of the *Orders* on aluminum extrusions from the PRC.

## BACKGROUND

On November 13, 2012, ECCO requested the Department determine whether its heat sinks for LED light bars were outside the scope of the *Orders*.<sup>4</sup> On January 18, 2013, the Aluminum Extrusions Fair Trade Committee ("Petitioner") submitted comments on ECCO's scope ruling request.<sup>5</sup> On January 23, 2013, Petitioner submitted additional factual information concerning ECCO's scope ruling request.<sup>6</sup> On January 30, 2013, the Department issued a letter to ECCO explaining that its original scope review request did not conform to 19 CFR 351.303, and providing ECCO an opportunity to correct noted deficiencies.<sup>7</sup> ECCO resubmitted its scope request and addressed these deficiencies on February 4, 2013.<sup>8</sup> The Department issued further supplemental questionnaires to ECCO on March 14, 2013,<sup>9</sup> and May 7, 2013.<sup>10</sup> ECCO provided responses to these questionnaires on March 27, 2013,<sup>11</sup> and May 9, 2013.<sup>12</sup> Aavid Thermalloy, LLC ("Aavid"), a domestic interested party in the underlying less-than-fair-value ("LTFV") investigation of aluminum extrusions, provided comments on ECCO's scope-ruling submissions on February 25, 2013.<sup>13</sup> Petitioner resubmitted its original scope comments on February 7,

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<sup>3</sup> See letter to All Interested Parties, entitled, "Aluminum Extrusions from the People's Republic of China ("PRC"): Initiation of Scope Inquiry on Heat Sinks for LED Light Bars Scope Request," dated June 21, 2013 ("Initiation").

<sup>4</sup> See ECCO's Original Scope Ruling Request.

<sup>5</sup> See Petitioner's submission, "Aluminum Extrusions from the People's Republic of China: Comments on ECCO's Scope Ruling Request Regarding Heat Sinks," dated January 18, 2013 ("Petitioner's Heat-Sink Scope Comments").

<sup>6</sup> See Petitioner's submission, "Aluminum Extrusions from the People's Republic of China: Submission of Factual Information," dated January 23, 2013 ("Petitioner's Submission of Factual Information").

<sup>7</sup> See letter from the Department, "Aluminum Extrusions from the People's Republic of China ("PRC"): Improperly Filed Scope Inquiry," dated January 30, 2013 ("Department's Letter on Improper Scope Filing").

<sup>8</sup> See letter from ECCO, "RE: Application for Scope Ruling in A-570-967 and C-570-968," dated February 4, 2013 ("ECCO's Second Scope Ruling Submission").

<sup>9</sup> See letter from the Department, "Aluminum Extrusions from the People's Republic of China ("PRC"): Heat Sinks LED Light Bars Product Description," March 14, 2013.

<sup>10</sup> See letter from the Department, "Aluminum Extrusions from the People's Republic of China ("PRC"): Heat Sinks for LED Light Bars: Thermal Properties and Testing," dated May 7, 2013 ("Department's Thermal Properties and Testing Questionnaire").

<sup>11</sup> See letter from ECCO, "Scope Inquiry: Heat Sinks LED Light Bars," dated March 27, 2013 ("ECCO's Third Scope Ruling Submission").

<sup>12</sup> See letter from ECCO, "Response to Request for Additional Information Dated May 7, 2013: Scope Ruling Request for Heat Sinks for LED Light Bars: Aluminum Extrusions from the People's Republic of China," dated May 9, 2013 ("ECCO's Supplemental Scope Ruling Submission").

<sup>13</sup> See letter from Aavid, "Aluminum Extrusions from the People's Republic of China: Aavid Thermalloy LLC Comments to ECCO Re-filed Scope Request," dated February 25, 2013 ("Aavid's Heat-Sink Scope Comments").

2013,<sup>14</sup> and then responded to Aavid's comments on March 25, 2013,<sup>15</sup> and to ECCO's supplemental responses on April 15, 2013,<sup>16</sup> and May 20, 2013.<sup>17</sup> On June 20, 2013, Aavid provided additional comments on ECCO's scope submissions.<sup>18</sup>

On June 21, 2013, the Department initiated a formal scope inquiry pursuant to 19 CFR 351.225(e).<sup>19</sup> On July 11, 2013, Streamlight, Inc. ("Streamlight"), a domestic manufacturer of various types of flashlights, including LED flashlights, provided comments on Aavid's Second Heat-Sink Scope Comments.<sup>20</sup> On August 8, 2013, Petitioner provided comments on the Department's initiation of the scope inquiry.<sup>21</sup> On August 21 and 22, 2013, ECCO and Aavid, respectively, provided comments to Petitioner's August 8, 2013, submission.<sup>22</sup>

As explained in the memorandum from the Assistant Secretary for Enforcement and Compliance, the Department exercised its discretion to toll deadlines for the duration of the closure of the Federal Government from October 1, through October 16, 2013.<sup>23</sup> On February 5, 2014, Petitioner placed comments on the record of this proceeding with respect to the Court of International Trade's ("CIT") decision in *Aluminum Extrusions Fair Trade Committee v. United States*, 968 F. Supp. 2d 1244 (CIT 2014).<sup>24</sup> On February 21, 2014, Aavid replied to these

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<sup>14</sup> See letter from Petitioner, "Aluminum Extrusions from the People's Republic of China: Comments on ECCO's Refined Scope Ruling Request Regarding Heat Sinks," dated February 7, 2013 ("Petitioner's Resubmission of Heat-Sink Scope Comments").

<sup>15</sup> See letter from Petitioner, "Aluminum Extrusions from the People's Republic of China: Response to Aavid Thermalloy LLC Heat-Sink Scope Comments," date March 25, 2013 ("Petitioner's Response to Aavid's Scope Comments").

<sup>16</sup> See letter from Petitioner, "Aluminum Extrusions from the People's Republic of China: Response to ECCO's Heat Sink Supplemental Questionnaire Response," dated April 15, 2013 ("Petitioner's Response to ECCO's Scope Comments").

<sup>17</sup> See letter from Petitioner, "Aluminum Extrusions from the People's Republic of China: Comments on ECCO's Submission of Additional Information," date May 20, 2013 ("Petitioner's Response to ECCO's Additional Information").

<sup>18</sup> See letter from Aavid, "Aluminum Extrusions from the People's Republic of China: Aavid Thermalloy LLC Comments to ECCO Re-filed Scope Request," dated June 20, 2013 ("Aavid's Second Heat-Sink Scope Comments").

<sup>19</sup> See Initiation.

<sup>20</sup> See letter from Streamlight, "Aluminum Extrusions from the People's Republic of China: Comments of Streamlight, Inc. on Scope Inquiry on Heat Sinks for LED Light Bars Scope Request," dated July 11, 2013 ("Streamlight's Rebuttal to Aavid's Scope Comments").

<sup>21</sup> See letter from Petitioner, "Aluminum Extrusions from the People's Republic of China: Comments on the Department's Initiation of a Formal Scope Inquiry," dated August 9, 2013 ("Petitioner's Comments on the Scope Initiation").

<sup>22</sup> See letter from ECCO, "Scope Inquiry for Heat Sinks for LED Light Bars, Aluminum Extrusions from the People's Republic of China: Rebuttal to Petitioner's Comments," dated August 21, 2013 ("ECCO's Rebuttal to Petitioner's Initiation Comments"); see also letter from Aavid, "Aluminum Extrusions from the People's Republic of China: Aavid Thermalloy LLC Rebuttal Comments to Petitioner's Comments in Response to Initiation of Scope Inquiry," dated August 22, 2013 ("Aavid's Rebuttal to Petitioner's Initiation Comments").

<sup>23</sup> See Memorandum to the File, "Aluminum Extrusions From the People's Republic of China: Tolling of Deadlines for Shutdown of the Federal Government," dated January 9, 2014.

<sup>24</sup> See letter from Petitioner, "Aluminum Extrusions from the People's Republic of China: Comments on In Light of Aluminum Extrusions Fair Trade Committee v. United States," dated February 5, 2014 (filing Slip Op. 14-6, Consol. Ct. No. 11-00216 (January 23, 2014)).

comments.<sup>25</sup> On June 23, 2014, Aavid provided selected comments on the initiation of the scope ruling inquiry with respect to heat sink parts for LED lamps/lights.<sup>26</sup>

The Department has extended the deadline for issuance of its final scope ruling on several occasions and, pursuant to the most recent extension, the final scope ruling is currently due November 28, 2014.<sup>27</sup>

## LEGAL FRAMEWORK

When a party files a request for a scope ruling, the Department examines the scope language of the order at issue and the description of the product contained in the scope-ruling request.<sup>28</sup> Pursuant to the Department's regulations, the Department may also examine other information, including the description of the merchandise contained in the petition, the records from the investigations, and prior scope determinations made for the same product.<sup>29</sup> If the Department determines that these sources are sufficient to decide the matter, it will issue a final scope ruling concerning whether the merchandise is covered by an order.

Conversely, where the descriptions of the merchandise in the sources described in 19 CFR 351.225(k)(1) are not dispositive, the Department analyzes the factors set forth at 19 CFR 351.225(k)(2). These factors are: (i) the physical characteristics of the merchandise; (ii) the expectations of the ultimate purchasers; (iii) the ultimate use of the product; (iv) the channels of trade in which the product is sold; and (v) the manner in which the product is advertised and displayed. The determination as to which analytical framework is most appropriate in any given scope proceeding is made on a case-by-case basis after consideration of all evidence before the Department.

## DESCRIPTION OF MERCHANDISE SUBJECT TO THIS SCOPE REQUEST

The products at issue in this scope request are heat sinks for bars of LED emergency lights designed to be mounted to the roof of the vehicle.<sup>30</sup> The products at issue also serve as the housing for the lights. The product is made of extruded aluminum alloy corresponding to Aluminum Association alloy series 6063. It is a solid profile, with an overall thickness and width of 0.004". ECCO did not provide model numbers for the products at issue, but did provide a design-specification document for the product subject to the request.<sup>31</sup>

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<sup>25</sup> See letter from Aavid, "Aluminum Extrusions from the People's Republic of China: Aavid Thermalloy LLC Rebuttal Comments to Petitioner's Comments in Response to CIT Decision," dated February 21, 2014.

<sup>26</sup> See letter from Aavid, "Aluminum Extrusions from the People's Republic of China: Aavid Thermalloy LLC Comments on Initiation of Scope Ruling Inquiry into Heat Sink Parts for LED Lamps/Lights," dated June 23, 2014 ("Aavid's Comments on the Initiation of the Scope Ruling for Heat Sink Parts for LED Lamps/Lights").

<sup>27</sup> See the Department's letter, entitled, "Aluminum Extrusions from the People's Republic of China: Extension of Time for Scope Ruling: Heat Sinks for LED Lightbars," dated October 28, 2014.

<sup>28</sup> See *Walgreen Co. v. United States*, 620 F.3d 1350, 1357 (Fed. Cir. 2010).

<sup>29</sup> See 19 CFR 351.225(k)(1).

<sup>30</sup> See ECCO's Original Scope Ruling Request at 5; and ECCO's Second Scope Ruling Submission at 5.

<sup>31</sup> See ECCO's Original Scope Ruling Request at Attachment D, ECCO's Second Scope Ruling Submission at Attachment D, and ECCO's Third Scope Ruling Submission at Attachment D.

## SCOPE OF THE ORDERS

The merchandise covered by these *Orders* is aluminum extrusions which are shapes and forms, produced by an extrusion process, made from aluminum alloys having metallic elements corresponding to the alloy series designations published by The Aluminum Association commencing with the numbers 1, 3, and 6 (or proprietary equivalents or other certifying body equivalents). Specifically, the subject merchandise made from aluminum alloy with an Aluminum Association series designation commencing with the number 1 contains not less than 99 percent aluminum by weight. The subject merchandise made from aluminum alloy with an Aluminum Association series designation commencing with the number 3 contains manganese as the major alloying element, with manganese accounting for not more than 3.0 percent of total materials by weight. The subject merchandise is made from an aluminum alloy with an Aluminum Association series designation commencing with the number 6 contains magnesium and silicon as the major alloying elements, with magnesium accounting for at least 0.1 percent but not more than 2.0 percent of total materials by weight, and silicon accounting for at least 0.1 percent but not more than 3.0 percent of total materials by weight. The subject aluminum extrusions are properly identified by a four-digit alloy series without either a decimal point or leading letter. Illustrative examples from among the approximately 160 registered alloys that may characterize the subject merchandise are as follows: 1350, 3003, and 6060.

Aluminum extrusions are produced and imported in a wide variety of shapes and forms, including, but not limited to, hollow profiles, other solid profiles, pipes, tubes, bars, and rods. Aluminum extrusions that are drawn subsequent to extrusion (drawn aluminum) are also included in the scope.

Aluminum extrusions are produced and imported with a variety of finishes (both coatings and surface treatments), and types of fabrication. The types of coatings and treatments applied to subject aluminum extrusions include, but are not limited to, extrusions that are mill finished (*i.e.*, without any coating or further finishing), brushed, buffed, polished, anodized (including bright-dip anodized), liquid painted, or powder coated. Aluminum extrusions may also be fabricated, *i.e.*, prepared for assembly. Such operations would include, but are not limited to, extrusions that are cut-to-length, machined, drilled, punched, notched, bent, stretched, knurled, swaged, mitered, chamfered, threaded, and spun. The subject merchandise includes aluminum extrusions that are finished (coated, painted, etc.), fabricated, or any combination thereof.

Subject aluminum extrusions may be described at the time of importation as parts for final finished products that are assembled after importation, including, but not limited to, window frames, door frames, solar panels, curtain walls, or furniture. Such parts that otherwise meet the definition of aluminum extrusions are included in the scope. The scope includes the aluminum extrusion components that are attached (*e.g.*, by welding or fasteners) to form subassemblies, *i.e.*, partially assembled merchandise unless imported as part of the finished goods 'kit' defined further below. The scope does not include the non-aluminum extrusion components of subassemblies or subject kits.

Subject extrusions may be identified with reference to their end use, such as fence posts, electrical conduits, door thresholds, carpet trim, or heat sinks (that do not meet the finished heat

sink exclusionary language below). Such goods are subject merchandise if they otherwise meet the scope definition, regardless of whether they are ready for use at the time of importation.

The following aluminum extrusion products are excluded: aluminum extrusions made from aluminum alloy with an Aluminum Association series designations commencing with the number 2 and containing in excess of 1.5 percent copper by weight; aluminum extrusions made from aluminum alloy with an Aluminum Association series designation commencing with the number 5 and containing in excess of 1.0 percent magnesium by weight; and aluminum extrusions made from aluminum alloy with an Aluminum Association series designation commencing with the number 7 and containing in excess of 2.0 percent zinc by weight.

The scope also excludes finished merchandise containing aluminum extrusions as parts that are fully and permanently assembled and completed at the time of entry, such as finished windows with glass, doors with glass or vinyl, picture frames with glass pane and backing material, and solar panels. The scope also excludes finished goods containing aluminum extrusions that are entered unassembled in a “finished goods kit.” A finished goods kit is understood to mean a packaged combination of parts that contains, at the time of importation, all of the necessary parts to fully assemble a final finished good and requires no further finishing or fabrication, such as cutting or punching, and is assembled ‘as is’ into a finished product. An imported product will not be considered a ‘finished goods kit’ and therefore excluded from the scope of the investigation merely by including fasteners such as screws, bolts, etc. in the packaging with an aluminum extrusion product.

The scope also excludes aluminum alloy sheet or plates produced by other than the extrusion process, such as aluminum products produced by a method of casting. Cast aluminum products are properly identified by four digits with a decimal point between the third and fourth digit. A letter may also precede the four digits. The following Aluminum Association designations are representative of aluminum alloys for casting: 208.0, 295.0, 308.0, 355.0, C355.0, 356.0, A356.0, A357.0, 360.0, 366.0, 380.0, A380.0, 413.0, 443.0, 514.0, 518.1, and 712.0. The scope also excludes pure, unwrought aluminum in any form.

The scope also excludes collapsible tubular containers composed of metallic elements corresponding to alloy code 1080A as designated by the Aluminum Association where the tubular container (excluding the nozzle) meets each of the following dimensional characteristics: (1) length of 37 mm or 62 mm, (2) outer diameter of 11.0 mm or 12.7 mm, and (3) wall thickness not exceeding 0.13 mm.

Also excluded from the scope of these *Orders* are finished heat sinks. Finished heat sinks are fabricated heat sinks made from aluminum extrusions the design and production of which are organized around meeting certain specified thermal performance requirements and which have been fully, albeit not necessarily individually, tested to comply with such requirements.

Imports of the subject merchandise are provided for under the following categories of the Harmonized Tariff Schedule of the United States (HTS): 7610.10.00, 7610.90.00, 7615.10.30, 7615.10.71, 7615.10.91, 7615.19.10, 7615.19.30, 7615.19.50, 7615.19.70, 7615.19.90, 7615.20.00, 7616.99.10, 7616.99.50, 8479.89.98, 8479.90.94, 8513.90.20, 9403.10.00,

9403.20.00, 7604.21.00.00, 7604.29.10.00, 7604.29.30.10, 7604.29.30.50, 7604.29.50.30, 7604.29.50.60, 7608.20.00.30, 7608.20.00.90, 8302.10.30.00, 8302.10.60.30, 8302.10.60.60, 8302.10.60.90, 8302.20.00.00, 8302.30.30.10, 8302.30.30.60, 8302.41.30.00, 8302.41.60.15, 8302.41.60.45, 8302.41.60.50, 8302.41.60.80, 8302.42.30.10, 8302.42.30.15, 8302.42.30.65, 8302.49.60.35, 8302.49.60.45, 8302.49.60.55, 8302.49.60.85, 8302.50.00.00, 8302.60.90.00, 8305.10.00.50, 8306.30.00.00, 8414.59.60.90, 8415.90.80.45, 8418.99.80.05, 8418.99.80.50, 8418.99.80.60, 8419.90.10.00, 8422.90.06.40, 8473.30.20.00, 8473.30.51.00, 8479.90.85.00, 8486.90.00.00, 8487.90.00.80, 8503.00.95.20, 8508.70.00.00, 8516.90.50.00, 8516.90.80.50, 8517.70.00.00, 8529.90.73.00, 8529.90.97.60, 8538.10.00.00, 8543.90.88.80, 8708.29.50.60, 8708.80.65.90, 8803.30.00.60, 9013.90.50.00, 9013.90.90.00, 9401.90.50.81, 9403.90.10.40, 9403.90.10.50, 9403.90.10.85, 9403.90.25.40, 9403.90.25.80, 9403.90.40.05, 9403.90.40.10, 9403.90.40.60, 9403.90.50.05, 9403.90.50.10, 9403.90.50.80, 9403.90.60.05, 9403.90.60.10, 9403.90.60.80, 9403.90.70.05, 9403.90.70.10, 9403.90.70.80, 9403.90.80.10, 9403.90.80.15, 9403.90.80.20, 9403.90.80.41, 9403.90.80.51, 9403.90.80.61, 9506.11.40.80, 9506.51.40.00, 9506.51.60.00, 9506.59.40.40, 9506.70.20.90, 9506.91.00.10, 9506.91.00.20, 9506.91.00.30, 9506.99.05.10, 9506.99.05.20, 9506.99.05.30, 9506.99.15.00, 9506.99.20.00, 9506.99.25.80, 9506.99.28.00, 9506.99.55.00, 9506.99.60.80, 9507.30.20.00, 9507.30.40.00, 9507.30.60.00, 9507.90.60.00, and 9603.90.80.50.

The subject merchandise entered as parts of other aluminum products may be classifiable under the following additional Chapter 76 subheadings: 7610.10, 7610.90, 7615.19, 7615.20, and 7616.99 as well as under other HTS chapters. In addition, fin evaporator coils may be classifiable under HTS numbers: 8418.99.80.50 and 8418.99.80.60. While HTS subheadings are provided for convenience and customs purposes, the written description of the scope of these *Orders* is dispositive.

## **DESCRIPTION OF THE MERCHANDISE CONTAINED IN THE NOTICES OF THE ORDERS**

On April 4, 2011, the Department published its affirmative final determination in the LTFV and CVD investigations,<sup>32</sup> specifically identifying heat sinks as subject extrusions.<sup>33</sup> However, on May 13, 2011, the ITC notified the Department of its affirmative finding of injury with respect to imports of certain aluminum extrusions from the PRC, and its negative injury finding with respect to imports of finished heat sinks from the PRC.<sup>34</sup> Therefore, consistent with sections 701 and 731 of the Tariff Act of 1930, as amended (the “Act”), the Department revised the scope of the subject merchandise stated in the *Final Determinations* so that the *Orders* would exclude finished heat sinks and thereby conform to, and be coterminous with, the ITC’s industry and

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<sup>32</sup> See *Aluminum Extrusions From the People’s Republic of China: Final Determination of Sales at Less Than Fair Value*, 76 FR 18524 (April 4, 2011), corrected by *Aluminum Extrusions From the People’s Republic of China: Notice of Correction to the Final Determination of Sales at Less Than Fair Value*, 76 FR 20627 (April 13, 2011); and, *Aluminum Extrusions From the People’s Republic of China: Final Affirmative Countervailing Duty Determination*, 76 FR 18521 (April 4, 2011), (collectively, “*Final Determinations*”)

<sup>33</sup> See *Final Determination* at 76 FR 18525, which states, “{s}ubject extrusions may be identified with reference to their end use, such as fence posts, electrical conduits, heat sinks, door thresholds, or carpet trim.”

<sup>34</sup> See *Certain Aluminum Extrusions from China*, Investigation Nos. 701-TA-475 and 731-TA-1177 (Final), Publication 4229 (May 2011) (“ITC Final Report”).

injury determinations.<sup>35</sup> In its instructions to the investigation questionnaire, the ITC described heat sinks as a subset of aluminum extrusions typically used in electronic equipment as a thermal controlling tool and stated that they are usually referred to as (1) heat sink blanks, (2) fabricated heat sinks, or (3) finished heat sinks.<sup>36</sup> The Department adopted the ITC’s descriptions, in large part. For purposes of the *Orders*, “heat sink blanks” are defined as “full length aluminum extrusions used to produce finished heat sinks” that “are generally the pre-fabricated, pre-tested inputs in the production of heat sinks (post any stretching or aging processes applied).”<sup>37</sup> “Fabricated heat sinks” are defined as “any heat sink blank that has been cut-to-length, precision machined, and or otherwise fabricated to the end product specifications, but not yet tested, assembled onto other materials, or packaged.”<sup>38</sup> Further, “finished heat sinks differ from fabricated heat sinks in that they have been fully, albeit not necessarily individually, tested and assured to comply with the required thermal performance end-use specifications.”<sup>39</sup> Only finished heat sinks are excluded from the scope of the *Orders*.<sup>40</sup>

## PRIOR SCOPE DETERMINATIONS

There are no relevant prior scope determinations. The Department has not previously issued any scope rulings on heat sinks, finished or otherwise, or merchandise containing heat sinks, finished or otherwise.<sup>41</sup>

## ITC FINAL INJURY DETERMINATION<sup>42</sup>

During its injury investigation, the ITC considered whether an industry in the United States was materially injured or threatened with material injury, or the establishment of an industry in the United States was materially retarded, by reason of imports of finished heat sinks (“FHS”) from China. The ITC’s analysis of how FHS differ from subject aluminum extrusions follows:<sup>43</sup>

For the reasons discussed below, we find that there are two domestic like products:

- (1) FHS; and,
- (2) all other aluminum extrusions corresponding to the scope of these investigations.

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<sup>35</sup> See also *Cleo Inc. v. United States*, 30 CIT 1380, 1383 (2006) (citing *Badger–Powhatan v. United States*, 608 F. Supp. 653, 656 (CIT 1985) (holding that the term “such merchandise” in section 731 of the Act refers to merchandise that satisfies both the less than fair value sales and injury criteria)).

<sup>36</sup> See *AD Order*, 76 FR at 30650; *CVD Order*, 76 FR at 30653.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Id.* See *Aluminum Extrusions Fair Trade Committee*, 968 F. Supp. 2d at 1249-1253 (affirming the finished heat sink exclusion as published in the *Orders*).

<sup>41</sup> The Department’s scope rulings regarding these *Orders* are available at the webpage titled “Aluminum Extrusions from the People’s Republic of China: Final Scope Rulings” at <http://enforcement.trade.gov/download/prc-ae/scope/prc-ae-scope-index.html>.

<sup>42</sup> See ITC Final Report.

<sup>43</sup> *Id.*, at 7-9 (all internal footnotes omitted).



***Physical characteristics and uses.*** All aluminum extrusions within the scope of these investigations share certain basic physical characteristics. All are made from aluminum alloys in the 1, 3, and 6 series of the Aluminum Association (so-called “soft alloys”), all are produced by an extrusion process, and many aluminum extrusions are further fabricated (for example, cut to length, machined, drilled, punched, notched, bent, stretched, or assembled by welding or fastening) after they are mill finished. Also, many aluminum extrusions are produced in custom shapes and sizes.

FHS are not different from other aluminum extrusions in terms of their metallurgic chemistry, or by virtue of being further fabricated or produced in custom shapes. FHS are different from most other aluminum extrusions, however, by virtue of the specific and precise tolerances to which they are generally produced. FHS are designed to remove damaging heat from electronic equipment. The flat surface tolerance for FHS is often 1/1000 of an inch per inch, compared to 4/1000 to 14/1000 of an inch per inch for ordinary aluminum extrusions. The precise flatness of FHS allows for close contact between the FHS and the heat-generating components for which they have been designed and to which they are attached, thereby reducing or eliminating heat-trapping “dead air.”

FHS also differ from other aluminum extrusions (including heat sinks that are not “finished”) because of their customized thermal resistance properties. Whereas most aluminum extrusions are differentiated by shape and dimension, FHS are also characterized by their thermal resistance properties. In fact, FHS are certified to perform within thermal resistance parameters. Although these thermal resistance properties are not visible, they are clearly relevant to the customers for whom FHS have been designed. They make FHS precisely or optimally suited to cool the specific electronic devices for which they have been designed.

The principal end-use applications of aluminum extrusions are in the building and construction, transportation, and engineered products sectors. FHS have a specific end use (thermal management of electronic devices), but many other aluminum extrusions also have distinct individual end-use applications.

***Interchangeability.*** FHS are not interchangeable with other aluminum extrusions. Many types of aluminum extrusions, however, also have a specific functionality and are not interchangeable with other aluminum extrusions. Aluminum extrusions in custom shapes are proprietary to specific users and specific applications, and thus by definition one type of custom shape is not interchangeable with another. Similarly, the interchangeability of standard shapes is limited by size and cross-dimensional shape; for example, one would not ordinarily use an angle and a tube interchangeably.

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***Common manufacturing facilities, production processes, and production employees.*** Aluminum extrusions are principally produced from aluminum billets. A billet is softened by being heated to the necessary temperature before extrusion. The heated billet is then pushed or squeezed into a precision opening, or die, to produce the desired shape. Thus, the shape of the die will dictate the shape of the extrusion. After emerging from the die, the extrusion is cooled, stretched, cut, aged, and finished, as appropriate.

FHS are produced from aluminum extrusions in a process in which a cut part of an extrusion is held in and fabricated by a computer controlled milling machine to add holes, clearance pockets, and attachment points for heat generating devices. The machined part is typically cleaned and deburred, and it can have one of a variety of finishes applied to it. Specialized equipment, including wind tunnels, flow calibration equipment, testing equipment, and specialized design and data collection software, are used to design FHS and to produce prototypes. Highly trained employees manage the FHS design and testing equipment. Substantial thermal analysis and testing are associated with the front end of FHS production.

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***Conclusion.*** On balance, we find that there is a clear dividing line separating FHS from other aluminum extrusions. Our conclusion is based particularly on the customized thermal resistance properties of FHS; the unique aspects of the design, testing and production of FHS; differences between FHS and other aluminum extrusions in the channels of trade through which they are sold; evidence that the thermal management industry is perceived by producers and customers as being different from the general aluminum extrusions industry; and the fact that FHS are sold at much higher prices because of high value-added than most other aluminum extrusions.

## INTERESTED PARTY COMMENTS

### ECCO

In its scope-ruling request and subsequent submissions, ECCO argues that the products at issue should be excluded from the scope of the *Orders* because they constitute finished heat sinks.<sup>44</sup> ECCO claims that the products at issue are manufactured in strict accordance with its specifications to minimize thermal resistance and maximize the heat conductivity of the extrusions.<sup>45</sup> ECCO contends that the thermal-performance requirements for heat sinks are not

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<sup>44</sup> See, e.g., ECCO's Original Scope Ruling Request at 1; ECCO's Second Scope Ruling Submission at 1; ECCO's Third Scope Ruling Submission at 1; ECCO's Supplemental Scope Ruling Submission at 2-5; ECCO's Rebuttal to Petitioner's Initiation Comments at 2-4.

<sup>45</sup> See ECCO's Original Scope Ruling Request at 6; ECCO's Second Scope Ruling Submission at 6; ECCO's Supplemental Scope Ruling Submission at 2.

specified in the *Orders*.<sup>46</sup> Rather, ECCO states that the products at issue are “precisely and optimally suited to cool the specific electronic devices for which they have been designed.”<sup>47</sup> ECCO contends that the products at issue are made of extruded aluminum and run the entire length of the LED bracket in order to provide sufficient surface area to achieve the target thermal resistance.<sup>48</sup> ECCO specifies that the flatness specification of the products at issue is 0.004 inches in overall thicknesses and widths, so that the flatness specification at the area connecting with the light bracket, which is 5.98 inches in width, amounts to 0.0007 inches per inch.<sup>49</sup> Thus, ECCO argues that the flatness tolerance is lower than the 0.001 inch-per-inch threshold cited in the ITC Final Report.<sup>50</sup> ECCO claims that it tested the prototype of the product at issue in order to ensure that its thermal resistance is low enough to keep the LED lights at target temperatures<sup>51</sup> and to ensure maximum performance by the lights.<sup>52</sup> ECCO contends that each of the products at issue that it imports has a Certificate of Compliance to confirm that it has been produced by the manufacturer in accordance with ECCO’s specifications.<sup>53</sup> Finally, ECCO argues that if the comparison of the characteristics of ECCO’s products at issue to the description of the finished heat sinks in the *Orders* does not satisfy the Department that ECCO’s products at issue are excluded from the *Orders*, then, the Department should find ECCO’s products at issue to be finished heat sinks, and thus, outside the scope of the *Orders* based on the Diversified Products Criteria set forth in 19 CFR 351.225(k)(2).<sup>54</sup>

### Petitioner

Petitioner argues that heat sinks, unlike other aluminum extrusions (which are normally differentiated by shape and dimensions), are characterized by their thermal-resistance properties and certified to perform within thermal parameters.<sup>55</sup> According to Petitioner, the ITC Final Report notes that substantial thermal analysis and testing are associated with the pre-production

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<sup>46</sup> See ECCO’s Original Scope Ruling Request at 9; ECCO’s Second Scope Ruling Submission at 9; and, ECCO’s Rebuttal to Petitioner’s Initiation Comments at 4.

<sup>47</sup> See ECCO’s Original Scope Ruling Request at 10; ECCO’s Second Scope Ruling Submission at 10; and, ECCO’s Supplemental Scope Ruling Submission at 2.

<sup>48</sup> See ECCO’s Original Scope Ruling Request at 10; ECCO’s Second Scope Ruling Submission at 10; ECCO’s Third Scope Ruling Submission at 5-6; and ECCO’s Supplemental Scope Ruling Submission at 2.

<sup>49</sup> See ECCO’s Original Scope Ruling Request at 7 and 10; ECCO’s Second Scope Ruling Submission at 7 and 10; and, ECCO’s Supplemental Scope Ruling Submission at 2.

<sup>50</sup> See ECCO’s Original Scope Ruling Request at 10 and ECCO’s Second Scope Ruling Submission at 10, both citing ITC Final Report at 21 (“The flat surface tolerance for FHS is often 1/1000 of an inch per inch, compared to 4/1000 to 14/1000 of an inch per inch for ordinary aluminum extrusions.”).

<sup>51</sup> See ECCO’s Original Scope Ruling Request at 11 and at Attachment H; ECCO’s Second Scope Ruling Submission at 11; and, ECCO’s Supplemental Scope Ruling Submission at 4.

<sup>52</sup> See ECCO’s Original Scope Ruling Request at 11; ECCO’s Second Scope Ruling Submission at 11; and, ECCO’s Supplemental Scope Ruling Submission at 4.

<sup>53</sup> See ECCO’s Original Scope Ruling Request at 11. However, ECCO further explains that it has not yet imported any such heat sinks. See ECCO’s Original Scope Ruling Request at 1; ECCO’s Second Scope Ruling Submission at 5; ECCO’s Third Scope Ruling Submission at 3.

<sup>54</sup> See ECCO’s Original Scope Ruling Request at 11-14 and ECCO’s Second Scope Ruling Submission at 11-14.

<sup>55</sup> See Petitioner’s Heat-Sink Scope Comments at 8; Petitioner’s Resubmission of Heat-Sink Scope Comments at 8; Petitioner’s Response to Aavid’s Scope Comments at 6; and Petitioner’s Comments on the Scope Initiation at 11.

process of finished heat sinks.<sup>56</sup> Petitioner asserts that only those heat sinks which have undergone thermal testing are considered “finished.”<sup>57</sup> Thus, Petitioner contends that, in order to be excluded from the *Orders*, heat sinks must be: (1) ready for installation<sup>58</sup> and must have undergone sufficient (post-production) testing, with accompanying documentation, to ensure compliance with performance requirements;<sup>59</sup> and (2) imported with all parts necessary for attachment to the heat source for which it will ultimately be used, including thermal interface materials and/or an attachment devices.<sup>60</sup>

Petitioner argues that it is not clear from the information provided in ECCO’s scope ruling request and subsequent submissions that ECCO’s heat sinks meet the criteria to qualify as “finished heat sinks,” and thus, to be excluded from the scope of the *Orders*.<sup>61</sup> Specifically, Petitioner alleges that: (1) ECCO did not describe or provide the design parameters for its heat sinks, but only stated that its heat sinks were “tested prior to manufacture to ensure that the heat sinks provide the level of thermal conductivity required to maintain peak performance of the light bars;”<sup>62</sup> (2) ECCO did not describe the type of testing to be provided by the manufacturer;<sup>63</sup> (3) ECCO did not provide any evidence that either it or its manufacturer conducted any post-production thermal testing on any of the heat sinks that could be produced from a single prototype.<sup>64</sup>

As a remedy, Petitioner proposes that in order to be excluded from the scope of the *Orders*, finished heat sinks must: (1) be fully prepared for installation (including all necessary thermal interface and/or attachment devices); (2) have undergone post-production thermal testing; and,

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<sup>56</sup> See ITC Final Report at 8; see also Petitioner’s Heat-Sink Scope Comments at Exhibit 5; and Petitioner’s Resubmission of Heat-Sink Scope Comments at Exhibit 5.

<sup>57</sup> See Petitioner’s Heat-Sink Scope Comments at 5 and Exhibit 5; Petitioner’s Submission of Factual Information at 2; Petitioner’s Resubmission of Heat-Sink Scope Comments at 5 and Exhibit 5; Petitioner’s Response to Aavid’s Scope Comments at 2-3; and, Petitioner’s Response to Aavid’s Scope Comments at 3.

<sup>58</sup> See Petitioner’s Heat-Sink Scope Comments at 5 through 7; Petitioner’s Submission of Factual Information at 2; and, Petitioner’s Resubmission of Heat-Sink Scope Comments at 5 through 7.

<sup>59</sup> See Petitioner’s Heat-Sink Scope Comments at 5 through 7; Petitioner’s Submission of Factual Information at 2; Petitioner’s Resubmission of Heat-Sink Scope Comments at 5 through 7; Petitioner’s Response to Aavid’s Scope Comments at 2 and 4; Petitioner’s Response to ECCO’s Scope Comments at 2; Petitioner’s Response to ECCO’s Additional Information at 1 through 3; and, Petitioner’s Comments on the Scope Initiation 1, 3.

<sup>60</sup> See Petitioner’s Heat-Sink Scope Comments at 7 through 11; Petitioner’s Resubmission of Heat-Sink Scope Comments at 7 through 11; Petitioner’s Response to Aavid’s Scope Comments at 9-10; and, Petitioner’s Response to ECCO’s Scope Comments at 6.

<sup>61</sup> See Petitioner’s Heat-Sink Scope Comments at 11; Petitioner’s Resubmission of Heat-Sink Scope Comments at 11; and, Petitioner’s Response to ECCO’s Scope Comments at 6.

<sup>62</sup> See Petitioner’s Heat-Sink Scope Comments at 11; Petitioner’s Resubmission of Heat-Sink Scope Comments at 11; and Petitioner’s Response to ECCO’s Additional Information at 3.

<sup>63</sup> See Petitioner’s Heat-Sink Scope Comments at 11; Petitioner’s Resubmission of Heat-Sink Scope Comments at 15; and, Petitioner’s Response to ECCO’s Additional Information at 3.

<sup>64</sup> See Petitioner’s Heat-Sink Scope Comments at 12; Petitioner’s Resubmission of Heat-Sink Scope Comments at 11; and Petitioner’s Response to ECCO’s Scope Comments at 4; Petitioner’s Response to ECCO’s Additional Information at 1-2.

(3) must be imported with accompanying documentation demonstrating the results of the thermal testing.<sup>65</sup>

### Aavid

Aavid disagrees with Petitioner's analysis of the finished-heat-sink exclusion. Specifically, Aavid disagrees that, to be excluded from the *Orders*, finished heat sinks must be imported with all parts necessary for attachment of the heat sink to the heat source, including thermal interface materials and/or an attachment device.<sup>66</sup> Aavid contends that this criterion is appropriate to the "finished goods kits" exclusion of the scope, which is separate and independent from the finished heat sinks exclusion of the scope.<sup>67</sup> As a consequence, Aavid argues that the Department should reject any attempt to link the two exclusions.<sup>68</sup>

Aavid also claims that Petitioner's emphasis on post-production thermal testing fails to reflect the finished-heat-sink production process or the ITC's like-product analysis.<sup>69</sup> Although Aavid fully recognizes that post-production testing is an important part of the finished-heat-sink production process, it contends that post-production testing is quite different from pre-production testing.<sup>70</sup> Specifically, Aavid argues that thermal performance is a function of: (a) a precise specification of the exact composition of the alloy, and, in particular, its thermal conductivity; (b) the geometry of the part, among other things, the length, width, height, fin thickness, and fin spacing; and, (c) the flatness of the part in the region where the electronic component is attached to the heat sink.<sup>71</sup> Aavid maintains that once pre-production testing is complete and a finished heat sink is manufactured from an extrusion, thermal resistance can be assured based on a validation of the particular alloy used in the manufacturing process and the geometry/flatness of the finished heat sink.<sup>72</sup> Thus Aavid claims that when post-production testing demonstrates that these specifications are met, then the finished heat sink will have the same thermal performance as the prototypes that were subject to pre-production testing.<sup>73</sup> According to Aavid, based on the information submitted to the ITC during the investigation, the ITC understood that no post-production thermal testing is required to produce a finished heat sink.<sup>74</sup>

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<sup>65</sup> See Petitioner's Heat-Sink Scope Comments at 12; Petitioner's Submission of Factual Information at 2 and Attachment 1; Petitioner's Response to Aavid's Scope Comments at 9 -10; Petitioner's Response to ECCO's Scope Comments at 2-6; Petitioner's Response to ECCO's Additional Information at 2-5; and, Petitioner's Comments on the Scope Initiation at 4-12.

<sup>66</sup> See Aavid's Heat-Sink Scope Comments at 2; Aavid's Second Heat-Sink Scope Comments at 2; and, Aavid's Rebuttal to Petitioner's Initiation Comments at 2-5.

<sup>67</sup> See Aavid's Heat-Sink Scope Comments at 2; Aavid's Second Heat-Sink Scope Comments at 2; and, Aavid's Rebuttal to Petitioner's Initiation Comments at Exhibit 1, page 2.

<sup>68</sup> See Aavid's Heat-Sink Scope Comments at 3; Aavid's Second Heat-Sink Scope Comments at 2; and, Aavid's Rebuttal to Petitioner's Initiation Comments at Exhibit 1, page 2.

<sup>69</sup> See Aavid's Heat-Sink Scope Comments at 4; Aavid's Second Heat-Sink Scope Comments at 3-4; and, Aavid's Rebuttal to Petitioner's Initiation Comments at 3-4.

<sup>70</sup> See Aavid's Heat-Sink Scope Comments at 5; Aavid's Rebuttal to Petitioner's Initiation Comments at 5; and Aavid's Comments on the Initiation of the Scope Ruling for Heat Sink Parts for LED Lamps/Lights at 7-8.

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

<sup>74</sup> See ECCO's Third Scope Ruling Submission at 5 and Exhibit 2; and ECCO's Rebuttal to Petitioner's Initiation Comments at 8.

Aavid also argues that the ITC acknowledges that pre-production thermal testing characterizes finished heat sinks because “specialized equipment, including wind tunnels, flow calibration equipment, testing equipment, and specialized design and data collection software, are used to design finished heat sinks and produce a prototype.”<sup>75</sup> Therefore, Aavid maintains that such pre-production testing, and not post-production testing, distinguishes finished heat sinks from the two other types of heat sinks that are included in the *Orders*: (1) heat sink blanks; and, (2) fabricated, but untested, assembled or packaged, heat sinks.<sup>76</sup> As a consequence, Aavid argues that the Department should regard Petitioner’s comments with respect to post-production thermal testing as invalid.

Aavid proposes that the Department adopt the following two criteria to determine whether an aluminum extrusion qualifies for the heat-sink exclusion from the orders.<sup>77</sup>

(1) Is the article primarily designed to cool electronic components?

Aavid maintains that any piece of aluminum can disperse heat, so that heat sinks must be manufactured to cool electronic components.<sup>78</sup> As a corollary, Aavid maintains that an article is primarily designed to cool electronic components if it comes into contact (either directly or through a suitable thermal interface material, like grease or a pad) with the electrical components that are to be cooled.<sup>79</sup> Thus, Aavid contends that if the article in question does not come into such contact with the electronic components that require cooling, it suggests that the article may not be primarily designed to cool an electronic component.<sup>80</sup>

(2) Has the article been tested for thermal performance in China?

Aavid maintains that, the ITC Final Report stated that thermal analysis and testing is associated with “the front end of finished-heat-sink production.”<sup>81</sup> By requiring prototype thermal analysis and testing to occur in China, Aavid maintain that the Department would guarantee that only manufacturers of FHS would invest in the technology and capital equipment required to conduct these tests.<sup>82</sup>

In addition, Aavid argues that the Department should reject Petitioner’s proposal that importers provide certification of the results of post-production thermal testing for each shipment of the

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<sup>75</sup> See Aavid’s Heat-Sink Scope Comments at 4, citing the ITC Final Report at 8; Aavid’s Second Heat-Sink Scope Comments at 3; and Aavid’s Rebuttal to Petitioner’s Initiation Comments at 4.

<sup>76</sup> See Aavid’s Heat-Sink Scope Comments at 4; and, Aavid’s Rebuttal to Petitioner’s Initiation Comments at 4.

<sup>77</sup> See Aavid’s Second Heat-Sink Scope Comments at 5.

<sup>78</sup> *Id.*

<sup>79</sup> *Id.* at 6.

<sup>80</sup> *Id.*

<sup>81</sup> *Id.* citing the ITC Final Report at 8.

<sup>82</sup> See Aavid’s Second Heat-Sink Scope Comments at 6.

merchandise at issue to the United States.<sup>83</sup> Aavid claims that the Department rejected the identical argument during the investigation.<sup>84</sup>

### Streamlight

Streamlight states in agreement with Aavid that thermal testing is done during the prototype development stage of the manufacturing process, not in the post-production phase.<sup>85</sup> Streamlight maintains that companies must ascertain whether a heat sink meets the requisite thermal criteria during the design and development phase of prototype products or, at the latest, during the production pilot run.<sup>86</sup> Thus, Streamlight contends, post-production testing has no basis in commercial or engineering reality.<sup>87</sup>

Streamlight also agrees with Aavid that dispersion of heat simply because of incidental contact with an electronic component does not transform an extrusion into a finished heat sink.<sup>88</sup> Thus, Streamlight argues that a heat sink may have more than one function, and may be a multi-part assembly where all parts are not necessarily in direct contact with the electrical components.<sup>89</sup> Thus, Streamlight contends that there is nothing in the order that precludes a heat sink from having additional functions beyond cooling.<sup>90</sup> However, Streamlight maintains, that in order to be considered a finished heat sink it is essential that the product was specifically designed and tested for the purpose of cooling.<sup>91</sup>

Finally, Streamlight disagrees with Aavid's statement concerning testing in China and claims that nothing in the order requires testing to be performed in China.<sup>92</sup> Rather, Streamlight contends such a requirement would encourage outsourcing of engineering and testing work to China.<sup>93</sup>

### **DEPARTMENT'S POSITION**

We examined the description of the product in ECCO's Scope Ruling Request, the scope language of the *Orders*, the *Federal Register* notices of the *Orders*, and the ITC's final injury determination. Pursuant to 19 CFR 351.225(k)(1), we find that the scope of the *Orders*, the description of the merchandise in the *Federal Register* notices, and the ITC Final Report are dispositive as to whether the products at issue are subject merchandise. Accordingly, for this determination, the Department finds it unnecessary to consider the additional factors specified in

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<sup>83</sup> See Aavid's Heat-Sink Scope Comments at 5-6; Aavid's Rebuttal to Petitioner's Initiation Comments at 2-4.

<sup>84</sup> See Aavid's Heat-Sink Scope Comments at 6.

<sup>85</sup> See Streamlight's Rebuttal to Aavid's Scope Comments at 2.

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> *Id.*

<sup>90</sup> *Id.*

<sup>91</sup> *Id.* at 3.

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

19 CFR 351.225(k)(2). For the reasons set forth below, we find that ECCO’s heat sinks for LED light bars at issue do not meet the exclusion criteria for finished heat sinks.

The scope of the *Orders* states that, “excluded from the scope of {these *Orders*} are finished heat sinks. Finished heat sinks are fabricated heat sinks made from aluminum extrusions the design and production of which are organized around meeting certain specified thermal performance requirements and which have been fully, albeit not necessarily individually, tested to comply with such requirements.”<sup>94</sup> Additionally, the “Revision of Scope” section of the *Orders* notes that {f}inished heat sinks differ from fabricated heat sinks in that they have been fully, albeit not necessarily individually, tested and assured to comply with the required thermal performance end-use specifications.”<sup>95</sup> As a consequence, the heat-sink exclusion language contained in the scope of *Orders* establishes that in order for a product to be excluded from the *Orders* as a FHS: (1) the design and production of the product must be organized around meeting specified thermal performance requirements; and, (2) the product must be fully, but not necessarily individually, tested to meet those specified thermal performance requirements.

The ITC Final Report provides additional context for the meaning of the phrases: (1) “the design and production of which are organized around meeting specified thermal performance requirements”; and, (2) “which have been fully, albeit not necessarily individually, tested to comply with such requirements.” Specifically, the ITC Final Report states that FHS are “designed to remove damaging heat from electronic equipment.”<sup>96</sup> Moreover, it explains that the “flat surface tolerance for FHS is often 1/1000 of an inch per inch, compared to 4/1000 to 14/1000 of an inch per inch for ordinary aluminum extrusions,”<sup>97</sup> so that the “precise flatness of FHS allows for close contact between the FHS and the heat-generating components for which they have been designed and to which they are attached, thereby reducing or eliminating heat-trapping ‘dead air.’”<sup>98</sup>

The ITC Final Report also states that “FHS also differ from other aluminum extrusions (including heat sinks that are not “finished”) because of their customized thermal resistance properties.”<sup>99</sup> It asserts further that “FHS are also characterized by their thermal resistance properties,”<sup>100</sup> and, “are certified to perform within thermal resistance parameters.”<sup>101</sup> The ITC Final Report explains that although these thermal resistance properties are not visible they make FHS precisely or optimally suited to cool the specific electronic devices for which they have been designed.<sup>102</sup>

With respect to testing, the ITC Final Report explains, “specialized equipment, including wind tunnels, flow calibration equipment, testing equipment, and specialized design and data

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<sup>94</sup> See *AD Order*, 76 FR at 30651; *CVD Order*, 76 FR at 30654.

<sup>95</sup> See *AD Order*, 76 FR at 30650; *CVD Order*, 76 FR at 30653.

<sup>96</sup> See ITC Final Report at 7.

<sup>97</sup> *Id.*

<sup>98</sup> *Id.*

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

<sup>102</sup> *Id.*



collection software, are used to design FHS and to produce prototypes.”<sup>103</sup> It explains further that, “highly trained employees manage the FHS design and testing equipment,” so that “substantial thermal analysis and testing are associated with the front end of FHS production.”<sup>104</sup>

Thus, congruent with the finished heat-sink scope exclusion language of the *Orders*, the ITC Final Report stresses that finished heat sinks have specific, identified thermal resistance properties, and, the devices are tested to ensure that they function within the specified thermal resistance parameters. Further, the ITC Final Report underscores that heat sinks are designed to remove damaging heat and that design specifications, such as precise surface flatness, serve the purpose of reducing heat in the heat-generating components for which they have been designed and to which they are attached.

The following is a synopsis of the description of the product at issue that ECCO provided in its numerous submissions:

ECCO’s scope review request and subsequent supplemental submissions explain that the product at issue serves both as a housing and as a heat sink for its LED light-bar assemblies.<sup>105</sup> In ECCO’s Original Scope Ruling Request and ECCO’s Second Scope Ruling Submission, ECCO provides (1) a design-specification document at Attachment D,<sup>106</sup> and, (2) a thermal testing document at Attachment H,<sup>107</sup> in support of its contention that the product at issue is “organized around meeting certain specified thermal performance requirements and which have been fully, albeit not necessarily individually, tested to comply with such requirements.”

ECCO explains that the most critical design features recorded in its design-specification document (Attachment D) refer to symmetry, twist, straightness, flatness and the material required.<sup>108</sup> ECCO identifies the dimensions of each of the above-mentioned features<sup>109</sup> and reports that these parameters are within the threshold specified in the ITC Final Report for heat sinks.<sup>110</sup> In response to a supplemental questionnaire explicitly requesting ECCO to identify “where on the record ECCO has described *how* the design and production of ECCO’s heat sinks are organized around meeting certain specified thermal performance requirements, as indicated in the scope of the *Orders*,”<sup>111</sup> ECCO replied:

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<sup>103</sup> *Id.* at 8.

<sup>104</sup> *Id.*

<sup>105</sup> See ECCO’s Original Scope Ruling Request at 5; See also ECCO’s Second Scope Ruling Submission at 5; and, ECCO’s Third Scope Ruling Submission at 2.

<sup>106</sup> See ECCO’s Original Scope Ruling Request at Attachment D and ECCO’s Second Scope Ruling Submission at Attachment D.

<sup>107</sup> See ECCO’s Original Scope Ruling Request at Attachment H and ECCO’s Second Scope Ruling Submission at Attachment H.

<sup>108</sup> See ECCO’s Original Scope Ruling Request at Attachment D, ECCO’s Second Scope Ruling Submission at Attachment D, and ECCO’s Third Scope Ruling Submission at Attachment D.

<sup>109</sup> *Id.*

<sup>110</sup> See ECCO’s Original Scope Ruling Request at 10 and ECCO’s Second Scope Ruling Submission at 10, both citing ITC Final Report at 21 (“The flat surface tolerance for FHS is often 1/1000 of an inch per inch, compared to 4/1000 to 14/1000 of an inch per inch for ordinary aluminum extrusions.”).

<sup>111</sup> See the Department’s Thermal Properties and Testing Questionnaire at 1.

The answer to this question may be found on the record in ECCO's February 4, 2013 scope ruling request, which discusses in detail how ECCO designed the heat sinks in question to serve the thermal dissipation needs of its LED light bars. In particular, the February 4, 2013 scope ruling request states as follows:

The ECCO heat sink extrusions are manufactured in strict accordance with specifications provided by ECCO that minimize thermal resistance and maximize the heat conductivity of the extrusions. *See* Attachment D.<sup>112</sup>

ECCO states further:

The light bar heat sinks that ECCO proposes to import are made of extruded aluminum alloy. The alloy of which the heat sinks are made corresponds to the 4 digit Aluminum Association alloy series designation number 6063. *See* Attachment G. Each heat sink is produced as a solid profile: its shape is unique and designed in accordance with ECCO's specifications, and the extrusion itself is solid rather than hollow. *See* Attachment D. The length of the heat sinks varies by model, and is designed so that each LED light in the assembly has maximum surface area contact with the heat sink. The heat sinks have a clear, matte anodic coating with an Aluminum Designation Anodic Coating Designation AA-M32C12- A21 or AA-M32-C22-A21. *Id.* The flatness specification of the heat sinks is 0.004" over all thicknesses and widths, so that the flatness specification at the area connecting with the light bracket, which is 5.98" in width, amounts to 0.0007" per inch. *Id.*<sup>113</sup>

ECCO continues:

The ECCO light bar heat sinks are "precisely and optimally suited to cool the specific electronic devices for which they have been designed," *i.e.*, ECCO LED light bars. *See* Final Determination at 7-8. The heat sinks in question are made of extruded aluminum, which is known for excellent conductivity and frequently used for heat sinks. The heat sinks also run the entire length of the LED bracket in order to provide sufficient surface area to achieve the target thermal resistance. Finally, the ECCO heat sinks have a surface flatness of 0.004" over all thicknesses and widths. At the point of connection with the light bracket, the extrusion is 5.98 inches wide. This calculates to a surface flatness of 0.0007" per inch, which is lower than the 0.001" per inch threshold cited by the ITC for heat sinks. *See* Final Determination at 21 ("The flat surface tolerance for FHS is often 1/1000 of an inch per inch, compared to 4/1000 to 14/1000 of an inch per inch for ordinary aluminum extrusions."). These specifications create a high enough

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<sup>112</sup> *See* ECCO's Supplemental Scope Ruling Submission at 2 citing ECCO's Second Scope Ruling Submission at 6 and Attachment D.

<sup>113</sup> *Id.* citing ECCO's Second Scope Ruling Submission at 7 and Attachment D.

thermal conductivity quotient to sufficiently dissipate heat from the LED lights.  
*See* Attachment H at 9.<sup>114</sup>

A close examination of ECCO's submissions reveals that ECCO fails to meet the two exclusion criteria for heat sinks.

Specifically, ECCO fails to:

- (1) Demonstrate how the design and production of the product at issue is organized around meeting specified thermal performance requirements.

First, ECCO failed to identify the specific thermal performance requirements that the products at issue are intended to meet anywhere on the record. Rather, it merely asserts that the thermal performance requirements for heat sinks are not specified in the *Orders* or in the final determination of the original investigation and notes that each application has its own unique thermal performance requirements.<sup>115</sup> ECCO also claims that ECCO's Original Scope Ruling Request and ECCO's Second Scope Ruling Submission discussed in detail "how ECCO designed the heat sinks in question to serve the thermal dissipation needs of its LED light bars."<sup>116</sup> However, an examination of these documents shows that ECCO failed to identify the target thermal performance requirements of the product at issue.<sup>117</sup>

ECCO claims that its light bar heat sinks are "precisely and optimally suited to cool the specific electronic devices for which they have been designed,"<sup>118</sup> because they are made of extruded aluminum, which is known for excellent conductivity and frequently used for heat sinks.<sup>119</sup> ECCO also states that the product at issue "runs the entire length of the LED bracket in order to provide sufficient surface area to achieve the target thermal resistance."<sup>120</sup> However, ECCO did not identify the target thermal resistance that the products at issue are designed to meet, nor did it provide any evidence showing how or why the design and production of the product was organized to meet the cooling requirements of the specific electronic devices in the LED light bar.

The ITC Final Report explains that, "the precise flatness of FHS allows for close contact between the FHS and the heat-generating components for which they have been designed and to which they are attached, thereby reducing or eliminating heat-trapping "dead air."<sup>121</sup> However,

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<sup>114</sup> *Id.*, citing ECCO's Second Scope Ruling Submission at 10, Attachment D and Attachment H at 9.

<sup>115</sup> *See* ECCO's Original Scope Ruling Request at 9 and ECCO's Second Scope Ruling Submission at 9, each citing Final Determination at 24; *AD Order*, 76 FR at 30651; *CVD Order*, 76 FR at 30654.

<sup>116</sup> *See* ECCO's Supplemental Scope Ruling Submission at 2 citing ECCO's Second Scope Ruling Submission at 6 and Attachment D.

<sup>117</sup> *Id.*, cited at length above.

<sup>118</sup> *See* ECCO's Original Scope Ruling Request and ECCO's Second Scope Ruling Submission at 10, citing the *Final Determination* at 7-8.

<sup>119</sup> *See* ECCO's Original Scope Ruling Request and ECCO's Second Scope Ruling Submission at 10.

<sup>120</sup> *Id.*, each citing Attachment B, "A review of passive thermal management of LED module," in *Journal of Semiconductors*, Vol. 32, No. 1, January 2011.

<sup>121</sup> *See* ITC Final Report at 7.

we find that ECCO also failed to demonstrate that the product at issue was attached to the heat-generating components it is designed to cool.<sup>122</sup> Although ECCO explains that the length of the product at issue is “designed so that each LED light in the assembly has maximum surface area contact with the heat sink,”<sup>123</sup> its design document, Attachment D, does not indicate that the product is in close contact with, or attached to, a LED light or a group of LED lights.<sup>124</sup>

Additionally, the article from the *Journal of Semiconductors* that ECCO provided states that LED lights attach directly to a substrate, which attaches directly to a LED board that in turn attaches directly to the heat sink meant to move the heat away from the LED light source,<sup>125</sup> but ECCO’s website does not show any connection between the product at issue and the specific LED lights,<sup>126</sup> and the photos of the product do not reveal any connection between the product at issue and the relevant LED lights.<sup>127</sup> Based on ECCO’s responses, it is unclear whether the heat sink is attached to a “light bracket,”<sup>128</sup> an “LED bracket,”<sup>129</sup> an “LED light bracket”<sup>130</sup> or to the “light bar assembly.”<sup>131</sup> Further, in its March 27, 2013, Third Scope Ruling Submission, in response to the question to identify where the LED lights are attached to the product, ECCO states that “LED modules are attached all around the entire periphery of the heat sink.”<sup>132</sup> While Streamlight contends that all parts of the heat sink need not necessarily be in contact with the electrical component the heat sink is designed to cool,<sup>133</sup> we are not addressing Streamlight’s argument at this time because as stated above, we find that ECCO has not demonstrated the connection between the product at issue and the heat generating components (*i.e.* the LED lights), which the product was designed to cool.

ECCO also claims that ECCO’s Original Scope Ruling Request and ECCO’s Second Scope Ruling Submission explain that the most critical design features recorded in its design-specification document (Attachment D) refer to symmetry, twist, straightness, flatness and the

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<sup>122</sup> See, e.g., ECCO’s Original Scope Ruling Request at Attachment C, ECCO’s Second Scope Ruling Submission at Attachment C; ECCO’s Third Scope Ruling Submission at 2.

<sup>123</sup> See ECCO’s Original Scope Ruling Request at 7 and ECCO’s Second Scope Ruling Submission at 7.

<sup>124</sup> See ECCO’s Original Scope Ruling Request at Attachment D, ECCO’s Second Scope Ruling Submission at Attachment D, and ECCO’s Third Scope Ruling Submission at Exhibit D; see also ITC Final Report at 7.

<sup>125</sup> See ECCO’s Original Scope Ruling Request at Attachment B and ECCO’s Second Scope Ruling Submission at Attachment B.

<sup>126</sup> See ECCO’s Original Scope Ruling Request at Attachment C and ECCO’s Second Scope Ruling Submission at Attachment C.

<sup>127</sup> See ECCO’s Third Scope Ruling Submission at 2.

<sup>128</sup> See, e.g., ECCO’s Original Scope Ruling Request at 7 and ECCO’s Second Scope Ruling Submission at 7.

<sup>129</sup> See, e.g., ECCO’s Original Scope Ruling Request at 10 and ECCO’s Second Scope Ruling Submission at 10.

<sup>130</sup> See, e.g., ECCO’s Original Scope Ruling Request at 11 and ECCO’s Second Scope Ruling Submission at 11.

<sup>131</sup> See ECCO’s Third Scope Ruling Submission at 7.

<sup>132</sup> *Id.* at 6.

<sup>133</sup> See Streamlight’s Rebuttal to Aavid’s Scope Comments at 2.

material required,<sup>134</sup> and that the specifications provided by ECCO “minimize thermal resistance and maximize the heat conductivity of the extrusions.”<sup>135</sup> ECCO also claims that the product at issue was manufactured with surface-flatness tolerances lower than the thresholds cited by the ITC for FHS.<sup>136</sup> ECCO explains that the flatness specification amounts to 0.0007” per inch at the “area connecting with the light bracket”<sup>137</sup> (rather than with the LED lights), and that its heat sinks have “a surface flatness of 0.004” over all thicknesses and widths,<sup>138</sup> so that, “these specifications create a high enough thermal conductivity quotient sufficient to dissipate heat from the LED lights.”<sup>139</sup> However, despite providing design specifications within the tolerances specified in ITC Report, ECCO fails to demonstrate how these identified specifications translate into ECCO’s product meeting specified thermal performance requirements. For example, ECCO fails to demonstrate how the flatness specification of its product allows for “close contact between the FHS and the heat-generating components for which they have been designed and to which they have been attached.”<sup>140</sup> Furthermore, ECCO does not otherwise indicate how the qualities of symmetry, twist, straightness, flatness and/or the material required serve the purpose of dissipating heat, given that ECCO did not establish that the extrusion connects directly to the heat-generating LED lights. As a consequence, we find that evidence submitted with ECCO’s scope request and supplemental responses does not demonstrate that the “*design and production of*” the merchandise at issue “was organized around meeting certain specified thermal performance requirements.”

We also find that ECCO fails to:

- (2) Demonstrate how the product at issue is fully, albeit not necessarily individually, tested to comply with the specified thermal performance requirements.

ECCO provided a report on the thermal testing performed that demonstrates the product at issue [

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]”,<sup>142</sup> and makes no reference to specific thermal performance requirements and does not indicate whether the product complies with such requirements.

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<sup>134</sup> See ECCO’s Second Scope Ruling Submission at 6, referring to ECCO’s Original Scope Ruling Request at Attachment D, ECCO’s Second Scope Ruling Submission at Attachment D, and ECCO’s Third Scope Ruling Submission at 6 and Attachment D.

<sup>135</sup> See ECCO’s Original Scope Ruling Request at 6 and ECCO’s Second Scope Ruling Submission at 6.

<sup>136</sup> See ECCO’s Original Scope Ruling Request and ECCO’s Second Scope Ruling Submission at 10.

<sup>137</sup> See ECCO’s Original Scope Ruling Request and ECCO’s Second Scope Ruling Submission at 7.

<sup>138</sup> *Id.* at 10.

<sup>139</sup> *Id.* citing Attachment H at 9.

<sup>140</sup> See ITC Final Report at 7; see also ECCO’s Original Scope Ruling Request at 7 and Attachment D and Attachment H; See ECCO’s Second Scope Ruling Submission at 7 and Attachment D and Attachment H.

<sup>141</sup> See ECCO’s Original Scope Ruling Request at Attachment H, page 9, and ECCO’s Second Scope Ruling Submission at Attachment H, page 9.

<sup>142</sup> See ECCO’s Original Scope Ruling Request and ECCO’s Second Scope Ruling Submission at Attachment H, page 1.

Moreover, this document does not characterize the product at issue as a heat sink, but rather only as an “[redacted].”<sup>143</sup> Additionally, the description of the test states, “[redacted]

],” and makes no reference to specific thermal performance requirements or complying with such requirements.<sup>144</sup> Further, the conclusion states, “[redacted]

],”<sup>145</sup> and makes no reference to specific thermal performance requirements, complying with such requirements, or to a heat sink. In addition, ECCO’s statement, “[redacted]

],” indicates that: (1) [redacted]; and, (2) [redacted]

].

Based on the above, we find that evidence submitted with ECCO’s scope request and supplemental responses does not demonstrate how the product at issue is *fully, albeit not necessarily individually, tested to comply with specified thermal performance requirements*.

Because ECCO fails to demonstrate that the product at issue meets the two criteria to qualify for the finished heat sink exclusion in the scope, we find that the merchandise is covered by the *Orders*. Consequently, we need not reach a decision with respect to the manner in which the merchandise should enter the United States to qualify for the finished heat sink exclusion, whether finished heat sinks must undergo pre- or post-production testing, or whether finished heat sinks must be imported with accompanying documentation demonstrating the results of the thermal testing, as requested by Petitioner.

We are not addressing ECCO’s arguments concerning 19 CFR 351.225(k)(2) factors because we are able to reach our determination through consideration of the descriptions of the merchandise contained in the sources specified in 19 CFR 351.225(k)(1).

Finally, we are not addressing Petitioner’s and Aavid’s comments concerning post-production testing and/or certification, because we determined that the product at issue is not a finished heat sink, and therefore, the issue of pre- or post-production certification and/or testing is moot.

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<sup>143</sup> See ECCO’s Original Scope Ruling Request and ECCO’s Second Scope Ruling Submission at Attachment H, e.g., at page 1 (“[redacted]

]”) and page 9 (“[redacted]

]).

<sup>144</sup> See ECCO’s Original Scope Ruling Request and ECCO’s Second Scope Ruling Submission at Attachment H, page 1.

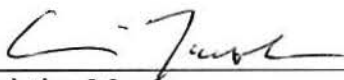
<sup>145</sup> See ECCO’s Original Scope Ruling Request and ECCO’s Second Scope Ruling Submission at Attachment H, page 9.

**RECOMMENDATION**

For the reasons discussed above, and in accordance with 19 CFR 351.225(f)(4) and (k)(1), we recommend finding that the product at issue in the instant request is subject to the scope of the AD and CVD *Orders* on aluminum extrusions from the PRC.

If the recommendation in this memorandum is accepted, we will serve a copy of this determination to all interested parties on the scope service list via first-class mail, as directed by 19 CFR 351.225(f)(4).

Agree  Disagree

  
\_\_\_\_\_  
Christian Marsh  
Deputy Assistant Secretary  
for Antidumping and Countervailing Duty Operations

11/24/11  
\_\_\_\_\_  
Date