



LightingEurope Position Paper

Customs Codes for LED Lighting Products

February 2014

SUMMARY

European lighting companies as represented by the European industry association LightingEurope are seriously concerned about inappropriate classification of LED lighting products resulting in certain cases in significant cost disadvantages and a non-level playing field in international competition. Therefore, LightingEurope requests a thorough review of the current practice for classification of LED lighting products into customs tariff classes in the different European countries and by the different customs offices. Furthermore, LightingEurope requests the publication of relevant classification regulations supported by transparent guidelines (CN explanatory notes) for product classification which are necessary for reliable and accurate business planning. LightingEurope also suggests a review and appropriate amendment of the existing nomenclature to better accommodate LED lighting products.

LightingEurope and their member companies would welcome any opportunity to explain the situation and concerns in more detail and will be happy to provide their support and technical expertise to related public authorities and other involved stakeholders.

1. Background & Current Situation

The lighting industry is currently undergoing a paradigm shift from conventional lighting to LED lighting and the development of new LED lighting products is continuously moving forward very rapidly. The clear distinction between lamps, luminaires, control-gear, etc. which was well-defined in the Harmonized System (HS) for conventional lighting (i.e. non-LED lighting) is not automatically applicable to LED lighting. In LED lighting, we have new types of components and products and the conventional boundaries between such products and components are dissolving, respectively need re-definition.

European lighting companies as represented by LightingEurope are concerned about customs tariff classification of LED lighting products imported into the EU. Due to the new LED lighting products and their configuration, the customs classification has become less apparent; we witness diverging classification practices within the EU for similar products. This results in application of different duty rates and thus a non-level playing field for the

industry. Currently, the classification of LED products seems to mainly evolve around three HS headings with corresponding Combined Nomenclature (CN) subheadings.

As an example, LEDs (Light Emitting Diodes) are sometimes classified by national customs offices into CN subheading **85.41 4010**:

„Diodes, transistors and similar semiconductor devices, photosensitive semiconductor devices, incl. photovoltaic cells whether or not assembled in modules or made up into panels (excl. photovoltaic generators), light emitting diodes, mounted piezoelectric crystals, parts thereof“

In other instances LEDs are classified into CN subheading **85.43 7090**:

“Electrical machines and apparatus, having individual functions, not specified or included elsewhere in this chapter”

Finally, we also find LEDs being classified into CN subheadings 94.05 4039 or 94.05 4099 under HS heading **94.05**:

„Lamps and lighting fittings, incl. searchlights and spotlights, and parts thereof, n.e.s, illuminated signs, illuminated nameplates and the like having a permanently fixed light source, and parts thereof, n.e.s.“

It should be noted that the duty implication for CN subheading 94.05 4039 is 4.7%, for 85.43 7090 it is 3,7% and for 85.41 4010 it is 0%. Accordingly, this classification can have a significant impact on the costs for related products and the profitability of a corresponding business line.

It is a fair observation that the current Harmonized System (2012) headings and text are not discriminatory enough to distinguish the different LED products in a careful manner. In fact, the approach of different national customs offices towards LED lighting products appears currently inconsistent. Technical explanations on presumed product differences provided by the national customs offices are not always in line with the actual product use and seem at odds with product classification schemes developed by national and international standardization committees.

In view of this situation, it is desirable to have classification regulations together with clear and transparent guidelines (CN-explanatory notes) to ensure a correct and consistent classification throughout the Customs Union securing a level playing field for the industry.

In fact, as industry, we see the need for two complementary measures:

Short-term measure: Provide transparent guidelines for classification of LED products into the existing scheme with the understanding, as explained above, that the existing scheme is not fully appropriate for all the new LED products which are already on the market and which will be developed in the future.

Long-term measure: Extend the existing scheme in the context of the HS review in 2017 to be better adopted for the different LED products and to facilitate uniform classification of these products throughout the world.

2. Guiding Principles regarding the Classification of LED Lighting Products

As LightingEurope, we consider it essential keeping a clear distinction between lighting components which have to be integrated into a more comprehensive product or system on the one hand and, on the other hand, luminaires which do not require any further integration, but can be used as stand-alone products by the end user.

Such distinction between components and luminaires is in accordance with the LED value chain which is meanwhile fully established in the lighting industry and which is also reflected in relevant international standardization (like IEC classification of lighting products).

In fact, this LED value chain distinguishes the following main product categories:

- Light Emitting Diodes (LEDs) as the basic semiconductor devices, including the bare LED chips/dies as well as LED packages encapsulating one or multiple chips (and possibly additional protective elements). In general lighting applications, such LEDs are not intended to be directly connected to a (commercial) power supply.



- LED Light Sources comprising one or multiple LEDs on a joint mounting device (like a printed circuit board), typically together with further active or passive electronic components and other elements (like optical or thermal components). Such LED Light Sources may have the form of LED Modules/Assemblies or LED Lamps and are intended to be installed in a luminaire or other general lighting system.



- LED Luminaires designed to incorporate one or more LED Light Sources. These LED Luminaires are the final lighting fittings intended for the end user and are designed to be operated on their own. In addition to their illumination function, (LED) Luminaires may serve esthetical and other demands.



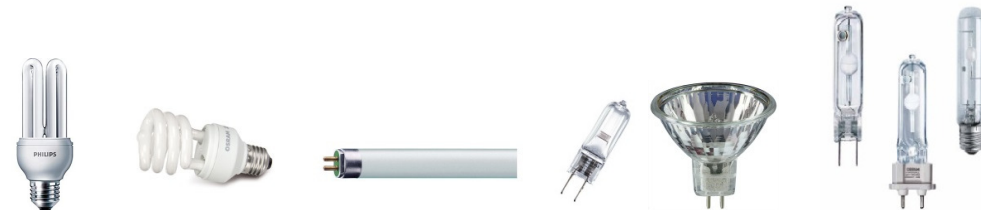
It should be noted that similar product categories and definitions are also being used by the European Commission for the recent *Commission Regulation (EU) No 1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment* (EcoDesign Regulation).

When looking into the current (2012) HS scheme, we find headings which are used for the classification of conventional (non-LED) lighting products following a similar structure along the value chain. In particular:

- Heading 85.41 is defined to cover typical electronic components, and here in particular semiconductor devices (e.g. transistors or opto-couplers and also certain basic types of light-emitting diodes).



- Heading 85.39 is defined to cover typical (conventional) lamps, i.e. conventional electrical light sources.



- Heading 94.05 is defined to cover typical (conventional) luminaires for use with different types of light sources (e.g. filament or fluorescent lamps).



In view of these considerations, LightingEurope considers the following general approach for the HS 2017 revision as most appropriate:

- **LEDs** (i.e. **LED Chips** and **LED Packages**) should be covered under new/modified sub-headings of appropriately amended **heading 85.41**.
- **LED Light Sources** (i.e. **LED Lamps** and **LED Modules/Assemblies**) should be covered under new/modified sub-headings of appropriately amended **heading 85.39**.
- **LED Luminaires** should be covered under new/modified sub-headings of appropriately amended **heading 94.05**.

Of course, proper definitions of these different types of LED lighting products may be added as chapter notes or explanatory notes.

3. Joint Proposal with DG TAXUD for HS 2017

Based on the general approach explained above, a proposal for the HS 2017 revision has been jointly worked out by LightingEurope and the European Commission DG TAXUD end 2012 / beginning 2013 and has subsequently been submitted to the WCO.

As part of this proposal, the following specific wording was suggested for **new/amended notes to HS chapter 85** (changes indicated in blue):

- (x) "Light-emitting diodes" are semiconductor devices based on semiconductor materials which convert electrical energy into visible, infra-red or ultra-violet rays, whether or not combined with protective diodes and whether or not assembled in modules, combined for all intents and purposes indivisibly.
- (x) For the purpose of heading 85.39, "Light-emitting diode (LED) assemblies" are assemblies for the generation of light consisting of printed circuits containing light emitting-diodes. They may also contain discrete active elements, discrete passive elements, and articles of heading 8536 or 8542 for the purpose of providing power supply or power control.

The following specific wording was suggested for the **amendment of heading 85.41**:

- | | |
|--------------------|---|
| 8541 | Diodes, transistors and similar semiconductor devices; photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes; mounted piezoelectric crystals:
... |
| 8541 40 | - Photosensitive semiconductor devices, including photovoltaic cells whether or not assembled in modules or made up into panels; light-emitting diodes |
| 8541 41 | - <u>Light-emitting diodes</u> |
| 8541 49 | - <u>Other</u>
... |

The following specific wording was suggested for the **amendment of heading 85.39**:

- | | |
|---------|--|
| 8539 | Electric filament or discharge lamps, including sealed beam lamp units and ultraviolet or infra-red lamps; arc lamps; <u>light-emitting diode (LED) lamps and light-emitting diode (LED) assemblies</u> :
... |
| | - <u>Light-emitting diode (LED) lamps and light-emitting diode (LED) assemblies</u> |
| 8539 51 | - - <u>Light-emitting diode (LED) lamps</u> |
| 8539 52 | - - - <u>Light-emitting diode (LED) assemblies</u>
... |

The following specific wording was suggested for the **amendment of heading 94.05**:

9405	Lamps and lighting fittings including searchlights and spotlights and parts thereof, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like, having a permanently fixed light source, and parts thereof not elsewhere specified or included.
9405 10	- Chandeliers and other electric ceiling or wall lighting fittings, excluding those of a kind used for lighting public open spaces or thoroughfares:
9405 11	- - Designed for use with light-emitting diodes only
9405 19	- - Other
9405 20	- Electric table, desk, bedside or floor-standing lamps
9405 21	- - Designed for use with light-emitting diodes only
9405 29	- - Other
9405 30	- Lighting sets of a kind used for Christmas trees
9405 31	- - Designed for use with light-emitting diodes only
9405 39	- - Other
9405 40	- Other electric lamps and lighting fittings
9405 41	- - Designed for use with light-emitting diodes only
9405 49	- - Other
9405 50	- Non-electrical lamps and lighting fittings
9405 60	- Illuminated signs, illuminated nameplates and the like
9405 61	- - Designed for use with light-emitting diodes only
9405 69	- - Other
	...

Notes:

- Corresponding amendments have also been suggested for headings 85.12 and 85.13.
- The use of the word “*lamps*” under heading 94.05 is rather misleading and should better be replaced by the word “*luminaires*”. (See also the French translation of the CN which uses the different words “*appareils d’éclairage*” and “*lampes*” for a clear distinction between lamps and luminaires.)

LightingEurope would highly welcome any agreement among WCO members respecting this proposal or at least the general approach behind this proposal.

4. Related Considerations & Ongoing Discussions

LED Packages

LightingEurope considers it essential that LED Packages (LEDs) are being understood as basic semiconductor devices, regardless of the number of LED chips included in the package, regardless whether or not these LED chips are connected among each other, and regardless of the presence of any protective diodes (Zener diodes). Accordingly, such LED Packages (LEDs) should be classified under appropriately amended heading 85.41.

LED Assemblies

LED assemblies comprise one or multiple LEDs on a printed circuit board (PCB), possibly together with other active or passive elements like electrical, mechanical, optical or thermal components.

LightingEurope is aware of ongoing discussions regarding potential distinctions between rather “SIMPLE” and more “COMPLEX” LED Assemblies, e.g. by using any of the following features as distinctive elements:

- “SIMPLE” LED Assemblies
 - only LEDs on the PCB, no other components;
 - LEDs together with passive components, but no active electrical components;
 - electrical control gear not included in the assembly;
 - no (standardized) socket.
- “COMPLEX” LED Assemblies
 - LEDs plus additional components on the PCB;
 - active components present in the assembly;
 - electrical control gear is included in the assembly;
 - with (standardized) socket.

Proposals for customs classification of LED Assemblies may then suggest using different headings for these different types of assemblies, e.g. amended heading 85.41 for “SIMPLE” LED Assemblies and amended heading 85.39 for “COMPLEX” LED Assemblies.

LightingEurope believes that it is difficult to find a meaningful and convincing distinction of LED Assemblies and would prefer a classification of all LED Assemblies under amended heading 85.39. Any further distinction of different types of assemblies should not take place at WCO/HS level, but may rather be implemented as regional/national refinement.

LED Lamps

While LightingEurope might be willing to consider meaningful distinctions of LED Assemblies, LED Lamps should clearly be classified under amended heading 85.39.

Here, LED Lamps include LED replacement lamps having a socket which is also used for the conventional (non-LED) lamps that can be replaced. LED Lamps may also come with new types of sockets that have not been used for conventional lamps. The main characteristic is the presence of a socket that allows the easy installation of the LED Lamp into a corresponding luminaire by an ordinary person (regardless whether the socket is also used for conventional lamps or not).

LED Luminaires

The joint proposal of LightingEurope and DG TAXUD as described in Chapter 3 above suggests distinct subheadings for luminaires *designed for use with LEDs only*.

Such luminaires *designed for use with LEDs only* should comprise the following:

- Integrated LED Luminaires incorporating LED light sources (LED Lamps or LED Assemblies) which are not intended to be replaced by an ordinary person. The LED light sources are typically installed by the luminaire maker as part of the manufacturing process before the luminaire is sold to the end user.

- Luminaires for (replaceable) LED Lamps having sockets not used for conventional lamps. Such luminaires are equipped with lampholders that can engage with corresponding LED Lamp sockets, but would not engage with conventional lamp sockets.

5. Outlook & Conclusion

LightingEurope will be happy to enter into discussions and to develop joint positions with other involved parties and stakeholders sharing the same general approach and basic principles regarding LED Lighting Products as explained in this document.

LightingEurope would similarly welcome entering into discussions regarding other lighting products (e.g. OLED lighting products) that may also need special attention in the context of customs classification.

Contact information can be found on the LightingEurope web page: <http://www.lightingeurope.org/about-us>