

## 1. Objective

The Signify Sustainable design process pursues a reduction of the environmental impact of its products and packaging by using responsible materials from renewable sources. This approach is governed by the Sustainability (QS-000164) and Environmental (QS-000165) policies.

This Requirement document encourages packaging designers, purchasing community and suppliers to minimize the environmental impact of packaging materials in all phases of its life cycle by adhering to the following principles for a sustainable packaging design and -production including specific requirements and targets:

1. Maximize recyclability and the content of recycled materials to close the material loop
2. Minimize the amount of material considering weight, volume and form factor for container loading, while offering sufficient product protection
3. Use alternative materials like certified renewable resources or bio-based materials is promoted, in case recycled content is not or limited available by the local supply base
4. Adhere to all mandatory local and global regulations and policy requirements for packaging related to chemical substances, materials and gassing
5. Assure responsible sourcing and compliance with Signify packaging requirements by requiring suppliers to conduct a risk assessment
6. Avoid use of wood harvested in violation of traditional and civil rights, e.g. forests where high conservation values are threatened, or which are converted to plantations
7. Assure wood used for products and packaging originate from sustainable sources (FSC, PEFC, ...) or are based on alternative materials like bamboo, rattan and leftovers from sugar production (UNESCO) or pressed wood from wood shavings from timber production.

## 2. Scope and responsibilities

The scope of the Packaging requirements is applicable for the packaging components used for Signify finished products and includes:

1. Packaging for all newly introduced products and changes in packaging of current portfolio
2. Transport packaging (e.g. A-boxes and palette boxes)
3. Individual product packaging (e.g. boxes, blisters, and sleeves)
4. Supportive packaging materials (e.g. pallets, stretch foil, stowing materials).

Descriptions- or instructions-for-use (DfU / IfU, incl. quick start guidelines) and warranty cards.

The scope of this requirement document does not describe the following:

1. Product and/or promotional materials supporting the sales in the shops, and (re-usable) industrial packaging of parts delivered to Signify production sites and does not end up at the final customer
2. Other marking requirements (e.g. Mobius triangle, Grüner Punkt logo) as these are included in packaging brand identity- and packaging guidelines.

We request suppliers to regularly check the Signify Sustainability website downloads to remain informed on the latest changes in legislative and policy obligations.

<https://www.signify.com/global/sustainability/downloads>

This table provides the structure of responsibilities regarding this requirement document:

| Scope  | Function<br>(Dept./Team)                              | Responsibility                                       | Description  |
|--|---|--|--|
| Environmental Authorization Committee (EAC)    | Sustainability, EHS                                   | Ownership  | Create, publish and review the packaging requirements  |
| Business I2M PCC – Packaging Competence Center | Product Design, PCC Packaging Designers & Procurement | Implementation                                       | Execute the packaging requirement and meet the targets   |
| Signify  | Sustainability, EHS                                   | Exchange of Information and Support PCC & Businesses | Deploy the packaging requirements, provide advice as well as support to the development and procurement functions with the implementation  |
| Signify  | Procurement   | Supplier responsibility                              | On request of Signify suppliers shall provide written evidence, such as certificates or declarations of conformity to demonstrate compliance to the risk assessment for responsible sourcing and requirements and targets included in this requirements doc. |
| Suppliers                                      | Suppliers   | Supplier responsibility                              | Quarterly report an overview of all grades supplied to Signify (weight, recycled content, certification, etc.) in packaging reporting template   |

### 3. Terms and abbreviations

|           |  |     |                                 |
|-----------|--|-----|---------------------------------|
| DFU / IFU | Directions or Instructions for Use   | PET | Polyethylene terephthalate      |
| EAC       | Environmental Authorization Committee for waiver applications and approval (Sustainability dept) | PS  | Poly styrene                    |
| FSC       | Forest Stewardship Council / Fair Wood   | PVC | Polyvinyl chloride              |
| PE        | Polyethylene   | PCC | Packaging Competence Center     |
| PEFC      | Program for the Endorsement of Forest Certification  | RSL | Regulated Substance List        |
| EPS       | Expanded poly styrene  | SFI | Sustainable Forestry Initiative |

### 4. Design criteria and implementation

Signify aims to achieve the highest feasible recycled content percentage in every region without compromising technical performance and protection standards. More specifically, Signify sets the following criteria for recycled content of certain packaging materials as specified in Annex 1 & 2. All Signify businesses are obliged to define implementation plans and road maps for alternative materials, based on a proper inventory and impact assessment. Suppliers have to meet the targets set in this requirement document.

In exceptional cases, exemptions for individual products can be obtained in mutual agreement with the supplier, e.g. in case of safety, regulatory, technical performance or business critical reasons. This might be applicable for instance for packaging of large, heavy and/or fragile products. The business must request for a waiver from the Signify EAC.

### 5. Document version history

| Date       | Author                          | Version | Reasoning   |
|------------|---------------------------------|---------|---|
| 08-02-2013 | J.W. Scheijgrond                | 1       | Introduction of the Packaging policy  |
| 27-09-2013 | T.B.L.W. Marinelli              | 2       | Update of the Philips Packaging Policy  |
| 22-10-2017 | L.U.E. Konings<br>QS-Exc4-012   | 3       | Signify version with adapted targets from January 2018 onwards                        |
| 25-07-2019 | T.B.L.W. Marinelli<br>QS-000168 | 4       | Update of the Policy at end of validity period. Adding bleaching process requirements |
| 27-02-2020 | T.B.L.W. Marinelli<br>QS-014359 | 5       | Changing document type from Policy to Procedure in QS/DMS                             |

## Annex 1: Design criteria for paper, paper-pulp and (corrugated) cardboard packaging

Paper based materials are preferred above plastic based packaging due to a lower environmental footprint. Exceptions might be feasible in case customers or product protection requires the use of plastic or certain foam-based materials.

Signify sets the following criteria for recycled content of certain packaging materials as specified below.

**Table 1: Criteria for recycled paper, paper-pulp and (corrugated) cardboard in packaging**

|                                      | Transport packaging of individual product packaging<br>(incl. DfUs, warranty card, etc) |
|--------------------------------------|---|
|                                      | From Jan 1, 2019 onwards  |
| Production in Europe or the Americas | >80%  |
| Production in Rest of the World      | >80%  |



Remarks:

1. Where the required recycled content is not feasible, recycled materials are not or limited available:
  - a. Materials from certified renewable sources (e.g. FSC, SFI, PEFC) shall be used, in case a product packaging cannot meet the required recycled content target. In this case, a waiver is not required. \* FSC = Forest Stewardship Council, <http://www.fsc.org/>  
\* PEFC = Program for Endorsement of Forest Certification Schemes <http://www.pefc.org/>
  - b. Bio-based materials (e.g. bamboo, sugarcane) may be used as alternative for certified renewable sources, provided these sources do not compete with the food chain. No targets are set as the market for bio-based materials differs widely per country.
2. Labeling packaging with FSC/SFI/PEFC logo is optional but is encouraged, if space is available, cost is acceptable, and it contributes to communicating our sustainability credentials towards our customers.
3. When specific targets are included in the requirement document (e.g. for recycled content) they apply as an average % for the total of all packaging materials supplied per supplier.

## ANNEX 2: Design criteria for plastic packaging

In line with the Signify 'zero plastic packaging program', plastics (incl. buffering materials) in B2C product packaging must actively be phased out before end of 2021.

For B2B product packaging, if functional and/or commercial conditions require, the use of plastics may be allowed. Signify sets the following criteria for recycled plastics content of PET when used in packaging materials.

**Table 2: Criteria for recycled plastic packaging content of all products:**

|   | Recycled content PET     |
|---|--------------------------|
|   | From Jan 1, 2019 onwards |
| <b>Production in Europe or the Americas</b> | >25%                     |
| <b>Production in Rest of the World</b>      | >10%                     |

Remarks:

1. PVC and EPS and other polymeric foam materials in packaging for products are restricted in accordance with RSL
2. When specific targets are included in the requirement document (e.g. for recycled content) they apply as an average wt% for the total of all packaging materials supplied per supplier.

## ANNEX 3: Design criteria for buffering materials

Signify sets the following criteria for buffering materials which may be needed for product protection or customer requirements during transportation (e.g. online sales). Paper based materials are preferred for packaging buffers and these honeycomb carton structures appear to be much more effective in case these are designed alongside product development (NPDL). Alternative buffer materials to paper should come from biodegradable sources like mushrooms, etc.

Use of buffering materials like EPS and polymeric foam in packaging for products / luminaires may be exempted for:

1. Fragile products or parts made of fragile glass or plastic
2. Heavy products with a total weight of the luminaire (incl. accessories) larger than 20 kg
3. Large products with a dimension larger than 700mm

A waiver must be requested from the EAC, which is valid for a maximum of 3 years. During the waiver period alternative packaging solutions should be developed, like honeycomb carton structures.