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Steklo v gradbeništvu - Okoljske deklaracije za proizvode - Pravila za kategorije proizvodov iz ravnega stekla

Glass in building - Environmental product declaration - Product category rules for flat glass products

Glas im Bauwesen - Umweltproduktdeklaration - Produktkategorieregeln für Flachglaserzeugnisse

Verre dans la construction - Déclaration environnementale des produits - Règles régissant les catégories de produits en verre plat

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EUROPEAN STANDARD

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Glass in building - Environmental product declaration - Product category rules for flat glass products

Verre dans la construction - Déclaration
environnementale des produits - Règles régissant les
catégories de produits en verre plat

Glas im Bauwesen - Umweltproduktdeklaration -
Produktkategorieregeln für Flachglasprodukte

This European Standard was approved by CEN on 2 September 2019.

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European foreword

This document (EN 17074:2019) has been prepared by Technical Committee CEN/TC 129 “Glass in building”, the secretariat of which is held by NBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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Introduction

This document provides Product Specific Category Rules for flat glass products (Flat Glass PCR) used in buildings and other construction works to support the assessment of the environmental performance and the development of Environment Product Declarations.

This Flat Glass PCR aims at complementing the general rules established in EN 15804:2012+A1:2013, by providing additional detailed rules on technical and environmental aspects of the manufacture of flat glass products, as well as information on relevant aspects linked to use and end-of-life stages, on a harmonized and scientific basis.

It specifies the requirements for the Life Cycle Assessment (LCA) study and the format and content of the EPD itself.

In the Environment Product Declarations, the information is presented by way of a modular approach, which allows for the easy organization and expression of data packages throughout the life cycle stages of the product. The approach requires that the underlying data should be consistent, reproducible and comparable.

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1 Scope

This document covers all life cycle stages, from cradle to grave, namely product stage, construction process stage, use stage and end-of-life stage of glass products (see Clause 4), used in buildings.

While covering all life cycle stages, this PCR primarily focuses on the product stage, in particular the manufacturing of flat glass and the consequent processing into flat glass products (as listed in point 4.), from cradle to gate. It covers raw materials and energy supply, transport, flat glass manufacturing, flat glass processing, packaging and storage.

All requirements and recommendations in this PCR for the elaboration of the Life Cycle Inventory may be applicable to flat glass used in other applications.

This PCR includes the rules to produce EPD that contains more than one thickness or configuration of the same product.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 572-1:2012+A1:2016, *Glass in building - Basic soda lime silicate glass products - Part 1: Definitions and general physical and mechanical properties*

EN 572-2, *Glass in building - Basic soda lime silicate glass products - Part 2: Float glass*

EN 572-3, *Glass in building - Basic soda lime silicate glass products - Part 3: Polished wired glass*

EN 572-4, *Glass in building - Basic soda lime silicate glass products - Part 4: Drawn sheet glass*

EN 572-5, *Glass in building - Basic soda lime silicate glass products - Part 5: Patterned glass*

EN 572-6, *Glass in building - Basic soda lime silicate glass products - Part 6: Wired patterned glass*

EN 572-7, *Glass in building - Basic soda lime silicate glass products - Part 7: Wired or unwired channel shaped glass*

EN 1036-1, *Glass in building - Mirrors from silver-coated float glass for internal use - Part 1: Definitions, requirements and test methods*

EN 1051-1, *Glass in building - Glass blocks and glass pavers - Part 1: Definitions and description*

EN 1096-1, *Glass in building - Coated glass - Part 1: Definitions and classification*

EN 1279-1, *Glass in Building - Insulating glass units - Part 1: Generalities, system description, rules for substitution, tolerances and visual quality*

EN 1748-1-1, *Glass in building - Special basic products -Borosilicate glasses - Part 1-1: Definition and general physical and mechanical properties*

EN 1748-2-1, *Glass in building - Special basic products - Glass ceramics - Part 2-1 Definitions and general physical and mechanical properties*

EN 1863-1, *Glass in building - Heat strengthened soda lime silicate glass - Part 1: Definition and description*

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EN 12150-1:2015+A1:2019, *Glass in building - Thermally toughened soda lime silicate safety glass - Part 1: Definition and description*

EN 12337-1, *Glass in building - Chemically strengthened soda lime silicate glass - Part 1: Definition and description*

EN 13024-1, *Glass in building - Thermally toughened borosilicate safety glass - Part 1: Definition and description*

EN 14178-1, *Glass in building - Basic alkaline earth silicate glass products - Part 1: Float glass*

EN 14179-1, *Glass in building - Heat soaked thermally toughened soda lime silicate safety glass - Part 1: Definition and description*

EN 14321-1, *Glass in building - Thermally toughened alkaline earth silicate safety glass - Part 1: Definition and description*

EN 15681-1, *Glass in building - Basic alumino silicate glass products - Part 1: Definitions and general physical and mechanical properties*

EN 15682-1, *Glass in building - Heat soaked thermally toughened alkaline earth silicate safety glass - Part 1: Definition and description*

EN 15683-1, *Glass in building - Thermally toughened soda lime silicate channel shaped safety glass - Part 1: Definition and description*

EN 15755-1, *Glass in building - Adhesive backed polymeric filmed glass - Part 1: Definitions and requirements*

EN 15804:2012+A1:2013, *Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products*

EN 16477-1, *Glass in building - Painted glass for internal use - Part 1: Requirements*

EN ISO 12543-1, *Glass in building - Laminated glass and laminated safety glass - Part 1: Definitions and description of component parts (ISO 12543-1)*

EN ISO 12543-2, *Glass in building - Laminated glass and laminated safety glass - Part 2: Laminated safety glass (ISO 12543-2)*

EN ISO 12543-3, *Glass in building - Laminated glass and laminated safety glass - Part 3: Laminated glass (ISO 12543-3)*

EN ISO 14025, *Environmental labels and declarations - Type III environmental declarations - Principles and procedures (ISO 14025)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15804:2012+A1:2013 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

by-product

substance or object, resulting from a production process, the primary aim of which is not the production of that item, and which meets the following conditions:

- (a) further use is certain;
- (b) it can be used directly without any further processing other than normal industrial practice;
- (c) it is produced as an integral part of a production process; and
- (d) further use is lawful

[SOURCE: DIRECTIVE 2008/98/EC, Article 5]

3.2

end-of-waste status

certain specified waste ceases to be waste when it has undergone a recovery, including recycling, operation and complies with specific criteria developed in accordance with the following conditions:

- (a) it is commonly used for specific purposes;
- (b) a market or demand exists;
- (c) it fulfils the technical requirements for the specific purposes and meets the existing legislation and standards applicable to products; and
- (d) the use will not lead to overall adverse environmental or human health impacts

[SOURCE: DIRECTIVE 2008/98/EC, Article 6]

Note 1 to entry: Criteria for determining when glass cullet destined for the production of glass substances or objects in re-melting processes ceases to be waste are established by the Commission Regulation No 1179/2012.

3.3

internal cullet

composed of defective products detected and rejected by a quality control process during the industrial process of glass manufacturing, transition phases of product changes (such as thickness and/or colour changes) and production offcuts

Note 1 to entry: These materials are immediately absorbed by the respective industrial process as a raw material for a new melting operation, not leaving the glass manufacturing plant.

[SOURCE: JRC-IPTS Working document – EoW criteria for waste glass]

EN 17074:2019 (E)**3.4****external cullet**

waste glass that is collected and/or reprocessed with the purpose of recycling

Note 1 to entry: External cullet can be of two types, pre-consumer, also called post-industrial glass cullet, and post-consumer glass cullet.

[SOURCE: JRC-IPTS Working document – EoW criteria for waste glass].

3.5**pre-consumer cullet**

waste glass resulting from the manufacturing of products that contain glass as one of their components, and which leaves the specific facility where it was generated but not reaching the consumer market

Note 1 to entry: An example of pre-consumer cullet is the glass cullet constituted by off cuts of the production of insulating glass which leave the processing facility and are re-melted in the flat glass manufacturing facility.

Note 2 to entry: Pre-consumer cullet if sorted properly fulfils the cullet specifications of the flat glass manufacturers and can be directly sent back to the furnace without additional treatment.

[SOURCE: JRC-IPTS Working document – EoW criteria for waste glass]

3.6**post-consumer cullet**

waste glass originated after the use of the glass products at the consumer market

[SOURCE: JRC-IPTS Working document – EoW criteria for waste glass]

3.7**similar product**

product covered by this PCR produced by the same company using the same production process

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4 Products covered/ Products category**4.1 General**

Glass is used in a variety of construction applications to provide a transparent, impermeable barrier, which may have additional insulating, solar control, security, noise reduction or decorative properties. Glass is also used as a base component for other technologies such as photovoltaic cells, which may be incorporated in construction works.

These Product Category Rules (PCR) are applicable to the production of flat glass products for use in buildings such as:

a) basic glass products according to EN 572-1:2012+A1:2016:

- float glass according to EN 572-2;
- polished wired glass according to EN 572-3;
- drawn sheet glass according to EN 572-4;
- patterned glass according to EN 572-5;
- wired patterned glass according to EN 572-6;

- wired or unwired channel-shaped according to EN 572-7;
- b) special basic glass products:
- borosilicate glass according to EN 1748-1-1;
 - glass ceramics according to EN 1748-2-1;
 - alkaline earth silicate glass according to EN 14178-1;
 - alumina silicate according to EN 15681-1;
 - glass blocks and glass pavers according to EN 1051-1;
- c) processed glasses:
- heat strengthened soda lime silicate glass according to EN 1863-1;
 - thermally toughened soda lime silicate safety glass according to EN 12150-1:2015+A1:2019;
 - heat soaked thermally toughened soda lime silicate safety glass according to EN 14179-1;
 - chemically strengthened soda lime silicate glass according to EN 12337-1;
 - thermally toughened borosilicate safety glass according to EN 13024-1;
 - thermally toughened alkaline earth silicate safety glass according to EN 14321-1;
 - heat soaked thermally toughened alkaline earth silicate safety glass according to EN 15682-1;
 - thermally toughened soda lime silicate channel shaped safety glass according to EN 15683-1;
 - laminated glass and laminated safety glass according to EN ISO 12543-1, EN ISO 12543-2 and EN ISO 12543-3;
 - insulating glass unit according to EN 1279-1;
 - coated glass according to EN 1096-1;
 - mirror form silvered coated glass for interior use according to EN 1036-1;
 - painted glass according to EN 16477-1;
 - adhesive back polymeric filmed glass according to EN 15755-1;
 - surface worked glass (e.g. sand blasted, acid etched);
 - any combination of the above.

NOTE 1 The above list of products is not exhaustive. The PCR can also apply to other glass products not listed above.

NOTE 2 These Product Category Rules are applicable to the whole glass product including all components, not only the glass element. For example, they would include the sealant in an insulating glass unit.

EN 17074:2019 (E)**4.2 Inclusion of several products in the same EPD**

Similar products can be presented in the same EPD but using different tables. A set of indicators and technical information per product shall be included.

5 Comparability of EPDs

Comparison of EPDs of products used in buildings should consider the complete life cycle (cradle to grave EPDs) as it should be based on the product's use and its impacts on the building (EN 15804:2012+A1:2013).

For comparison of EPDs of glass products used in buildings (comparisons at sub-building level), the requirements of comparability set out in EN 15804:2012+A1:2013 and EN ISO 14025 shall be met.

Comparison of EPDs is not a simple and direct process. It requires the assurance of comparable conditions and assumptions to avoid inaccurate conclusions. Functional requirements, as well as technical and environmental characteristics and conditions must be the same.

6 Date of publication

Conditions of EN 15804:2012+A1:2013 apply.

7 PCR review

Conditions of EN 15804:2012+A1:2013 apply.

8 Expiration date

Conditions of EN 15804:2012+A1:2013 apply. [SIST EN 17074:2020](https://standards.iteh.ai/catalog/standards/sist/9b61454b-5b9c-4e0e-995d-9da73f5a5ae3/sist-en-17074-2020)
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9 Product category rules for LCA**9.1 General**

A Life Cycle Analysis (LCA) shall be performed, conforming to this PCR, in order to identify the environmental impacts of each life cycle phase of the product.

The scope of the LCA shall include a description of the following according to this PCR:

- Functional unit;
- Reference Service Life;
- System boundaries;
- Criteria for the exclusion of inputs and outputs (cut-off rules);
- Selection of data and data quality requirements.

9.2 Functional unit

For each of the glass products listed in Clause 4, the functional unit is one square metre (1 m²) used as glazing product and shall be complemented by one or several performance characteristics, such as Transmittance, Reflectance, U-value, g-value, acoustics and safety classification according to European standards.