

Kiwa-Ecobility Experts

Program operator, in cooperation
with the notified bodies of the Kiwa Group

Product Category Rules for fire hose reel with semi-rigid hose

Program for Enviromental Information
according to EN 15804 / ISO 21930

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1 Introduction

This document provides product category rules (PCR) for Type III environmental product declarations (EPD) according to EN 15804 for fire hose reel with semi-rigid hose.

This PCR document complements EN 15804 by additional details specific to fire hose reel with semi-rigid hose. In cases where no specific rules are given in this document, EN 15804 should be followed. Therefore, this document should be read in parallel with EN 15804. EN 15804 is normatively referred to in this document and is essential for its application.

This document is structured like EN 15804; all headings and section numbering have been retained. Where a section of EN 15804 applies without change, this is indicated. If a section of EN 15804 is not relevant for EPD according to this PCR, this is also indicated.

In the Kiwa-EE program, Program for Environmental Information according to EN 15804 / ISO 21930 is used. This contains the uniform life cycle assessment calculation rules for all construction products, as well as the requirements for the project report.

According to the general program instructions, Kiwa-EE has a focus on construction products. This includes raw materials for building materials, components / elements, prefabricated parts, building supplies, technical building equipment and packaging materials.

The specific PCR regulates the specific requirements of each product subgroup for the contents of an EPD.

2 Scope

The general scope of the basic product category rules (PCR) is given in EN 15804, section 5.1.

A fire hose reel with semi-rigid hose in the context of this PCR refers to a hose reel system equipped with a semi-rigid hose, permanently connected to a water supply, and intended for occupant use during a fire emergency. The standard specifies requirements and test methods for the construction and performance of such hose reels. This PCR is primarily used for fire hose reel with semi-rigid hose as per CEN/TC 191 – Fixed Fire-fighting Systems.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document (including all amendments) applies.

CEN/TC 191 – Fixed Firefighting Systems

EN 671-1 – Fixed firefighting systems – Hose systems –
Part 1: Hose reels with semi-rigid hose.

DIN 14461 – Firefighting fittings – Wall hydrants

DIN 14462 – Firefighting systems – Planning, installation, operation, and maintenance of wall hydrant systems and fire extinguishing water systems

DIN 14463 – Wall hydrant systems with extinguishing agent additive – Requirements and testing

4 Terms and definitions

For the application of this document, the terms according to EN 15804, GPI and GPI Annex B1 applies. The product category specific terms are basically defined in EN 671-1 and CEN/TC 191. The terms are related to function, product, product characteristics and manufacturing properties and should be applied in EPDs.

5 Abbreviation

For general EPD Terms see EN 15804, GPI and GPI Annex B1.

Abbreviation referring to the Product category are listed in the following:

CWP: Cold Working Pressure

DN: Diameter Nominal (standardized pipe size designation)

EMC: Electromechanical Components (where applicable)

FH: Fire Hydrant

FHR: Fire Hose Reel

FRP: Fire-Resistant Panel

ID: Inside Diameter (of the hose)

MOP: Maximum Operating Pressure

MPa: Megapascal (a unit of pressure)

NFPA: National Fire Protection Association (referenced globally)

OD: Outside Diameter (of the hose)

OP: Operating Pressure

SRH: Semi-Rigid Hose

WFPS: Water Fire Protection System

6 General Aspects

6.1 Objective of the Core PCR

see EN 15804

6.2 Types of EPD with respect of life cycle stages covered

This PCR mandates EPDs to include cradle-to-gate (A1-A3), construction (A4-A5), and end-of-life (C1-C4) stages. Additionally, Module D must be included to account for benefits and loads beyond the system boundary.

The use phase (B1-B7) is generally excluded, as fire hose reel with semi-rigid hose have negligible environmental impacts during use. However, scenarios like maintenance (B2) or replacement (B4) can be included where applicable. For further information please see EN 15804.

6.3 Comparability of EPD for construction products

see EN 15804

6.4 Additional information

6.4.1 General

see EN 15804

6.4.2 Additional impact indicators

see EN 15804

6.4.3 Additional information on carbon offset, carbon storage and delayed emissions

see EN 15804

6.4.4 Additional Information not derived from LCA

see EN 15804

6.5 Ownership, responsibility and liability for the EPD

see EN 15804

6.6 Communications formats

see EN 15804

7 Product category Rules for LCA

7.1 Product category

The product category referred to fire hose reel with semi-rigid hose fall under CPC code 43923 and include systems with semi-rigid hoses, mounted in cabinets or wall systems, compliant with EN 671-1 and CEN/TC 191 for buildings and other constructions works.

7.2 Life cycle stages and their information modules to be included

7.2.1 General

see EN 15804

7.2.2 A1-A3, Product stage, information modules

In Addition to EN 15804:

All main raw materials (e.g. , steel, brass, rubber, plastic) and, if applicable, coatings as well as their percentage by mass must be listed. Raw material properties relevant for LCA, such as biodegradability and secondary material content, should be specified. The production description should specify which processing operations are carried out in the factory (e.g. extrusion, coating, packaging, assembly).

7.2.3 A4-A5, Construction process stage, information modules

see EN 15804

The use of machines or vehicles for the installation of fire hose reel with semi-rigid hose products must be taken into account.

7.2.4 B1-B5, information modules related to the building fabric

see EN 15804

Use phase modules (B1-B5) are excluded for fire hose reel with semi-rigid hose, as they are passive products with no significant operational impacts. Maintenance (B2) and Replacement (B4) may be noted if specific guidelines are required for hose replacement.

7.2.5 B6-B7, information modules related to the operation of the building

According to EN 15804 and beyond: scenarios for B6 and B7 in EPDs for engineering plastics are always calculated with an impact with a value of 0.

7.2.6 C1-C4, End-of-Life stage, information modules

see EN 15804

7.2.7 D, Benefits and loads beyond the system boundary, information modules

see EN 15804

7.3 Calculation rules for the LCA

7.3.1 Functional/declared unit

see section 7.3.2 and section 7.3.3

7.3.2 Functional unit

The functional unit is not applicable in this case as the fire hose reel with semi-rigid hose are not continuously used.

7.3.3 Declared unit

One fire hose reel with semi-rigid hose, including a cabinet, and associated components, ready for installation on a wall, compliant with fire safety class EI60.

7.3.4 Reference service life (RSL)

Fire hose reel with semi-rigid hose are typically installed permanently within buildings. Certain components, such as hoses, may require periodic replacement. As a conservative estimate, a reference service life (RSL) of 30 years is assumed without replacement of major parts.

7.3.5 System boundaries

see EN 15804

7.3.5.1 Product stage

The following processes should be considered at least:

- Production of the raw materials
- Transport of the raw materials to the production plant
- All processing steps of the raw materials to the end product incl. use of ancillary materials and energy input

7.3.5.2 Manufacturing stage

The following processes should be considered at least:

- Transport of the product to the construction site,
- Installation of the product at the site.

7.3.5.3 Use stage

see EN 15804

7.3.5.4 End-of-life stage

see EN 15804

7.3.5.5 Benefits and loads beyond the product system boundary in module D

see EN 15804

7.3.5.6 Benefits and loads beyond the product system boundary in module D

see EN 15804

7.3.6 Criteria for the exclusion of inputs and outputs

see EN 15804

7.3.7 Selection of data

see EN 15804

7.3.8 Data quality

An estimate should be made as regards data quality (addressing both foreground and background data), whereby the age of background data used shall be indicated. For average EPDs, an estimate of the robustness of the LCA values shall be made, e.g. concerning variability of the production process, geographical representativity and the influence of background data and preliminary products compared to the environmental impacts caused by the actual production. The age of the background data shall be stated. An estimate should be made with regard to data quality (addressing both foreground and background data), whereby the age of background data used shall be indicated.

see EN 15804

7.3.9 Developing product level scenarios

see EN 15804

When creating scenarios, the aspects of the application (e.g. installing the product on the wall) as well as special product properties and recyclability must be taken into account.

7.3.10 Units

see EN 15804

7.4 Inventory analysis

see EN 15804

7.5 Impact assessment

see EN 15804

8 Content of the EPD

8.1 Declaration of general information

see EN 15804, GPI and GPI Annex B1

The content declaration shall include a table in the EPD where the composition of the product is included. The different components shall be reported in weight-% and the total mass of the declared or the declared unit shall be given.

Generally, the technical data that must also be given for CE marking (Declaration of Performance) according to EU Directive 93/68/EC for the corresponding product are suitable for this purpose.

For the specification of the product and the information about the applicability and a possible comparison with another product, all essential technical performance characteristics for the product should be listed in tabular form. Generally, the technical data that must also be given for CE marking (Declaration of Performance) according to EU Directive 93/68/EC for the corresponding product are suitable for this purpose. The fire hose reel with Semi-rigid hose has to be checked annually according to EN-671-3 and CEN/TC 191. Following product information should be explained EN 671-1:

- Description of fire hose reel (fixed or swining, swining arm, pipe or door), manual or automatised usage,
- length [m] and inside diameter [mm] of hose,
- Nozzle or equivalent diameter.

Additional indicators according EN 671-1 can added

8.2 Declaration of environmental indicators derived from LCA

see EN 15804, GPI and GPI Annex B1

The LCIA results may be scaled to account for variations in component thicknesses, allowing multiple product configurations to be covered within a single EPD. The scope and calculation guidance for such variations must be explicitly stated in the EPD.

In these cases, the scope (all product articles) and the guidance for the calculation must be given, as well as guidance on the calculation of the LCIA for the individual product articles based on the scaled LCIA data.

8.3 Scenarios and additional technical information

see EN 15804, GPI and GPI Annex B1

8.4 Aggregation of information modules

see EN 15804, GPI and GPI Annex B1

9 Content of the project report

The additional information specific to the product category in Chapter 7, which must be provided in the EPD, must be listed in the project report with at least the same level of detail.

9.1 General

see EN 15804, GPI and GPI Annex B1

9.2 Scope of the study.

see EN 15804, GPI and GPI Annex B1

9.3 Documentation on additional information

see EN 15804, GPI and GPI Annex B1

9.4 Data availability for verification

see EN 15804, GPI and GPI Annex B1

10 Verification and validity of an EPD

see EN 15804, GPI and GPI Annex B1

References

GPI	Kiwa-Ecobility Experts – General Program Instruction “Product Level”, Program EE 1201
GPI Annex B1	Kiwa-Ecobility Experts – Program for Environmental Information according to EN 15804 / ISO 21930, Program EE 1203
EN 15804	EN 15804:2012+A2:2019: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products
ISO 21930	Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services (2017)
ISO 14025	Environmental labels and declarations — Type III environmental declarations — Principles and procedures (2006)
ISO 14040	Environmental management - Life cycle assessment - Principles and framework (2006)
ISO 14044	Environmental management - Life cycle assessment - Requirements and guidelines (2006)
ISO 14067	Greenhouse gases - Carbon footprint of products - Requirements and guidelines for quantification (ISO/DIS 14067:2017); German and English version EN ISO 14067:2017
CEN/TR 15941	Sustainability of construction works - Environmental product declarations - Methods for selection and use of generic data; German version CEN/TR 15941:2010
ISO/IEC 17065	Conformity assessment - Requirements for bodies certifying products, processes and services (ISO/IEC 17065:2012); German and English version EN ISO/IEC 17065:2012

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