

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN15804+A2

STORA-DRAIN Polypropylene Channel



Owner of the declaration:

Stora Drain

Product:

STORA-DRAIN Polypropylene Channel

Declared unit:

1 kg

This declaration is based on Product Category Rules:

EN 15804:2012+A2:2019, EPD Ireland PCR Part A,
Version 2.1, 2022

EPD Ireland PCR Part A, Version 2.1, 2022

Program operator:

EPD Ireland

Declaration number:

EPDIE-25-263

Issue date:

30.04.2026

Valid to:

29.04.2031

General information

Product

STORA-DRAIN Polypropylene Channel

Program operator:

EPD Ireland
19 Mountjoy Square, Dublin D01 E8P5
Phone: +353 (01) 6815862
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Declaration number:

EPDIE-25-263

This declaration is based on Product Category Rules:

EN 15804:2012+A2:2019, EPD Ireland PCR Part A, Version 2.1, 2022
EPD Ireland PCR Part A, Version 2.1, 2022

Statement of liability:

The owner of the declaration shall be liable for the underlying information and evidence. The EPD Program operator shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

Type of EPD

Average product EPD

Declared unit:

1 kg STORA-DRAIN Polypropylene Channel

Scope of the EPD:

A1, A2, A3, A4, A5, C1, C2, C3, C4, D

Functional unit:

Not relevant

Verification:

Independent verification of the declaration and data, according to ISO14025:2010

Third party verifier:
Stephen Forson

Owner of the declaration:

Stora Drain
Contact person: Brian Kelly
Phone: +353 (0) 57 912 3100
e-mail: brian.kelly@ejco.com

Manufacturer:

Stora Drain

Place of production:

Stora Drain
Rue Marie Popelin 1
7180 Seneffe, Belgium

Issue date:

30.04.2026

Valid to:

29.04.2031

Year of study:

2025

Comparability:

Environmental Product Declarations from different programmes may not be directly comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See clause 5.3 of EN 15804:2012+A2:2019

LCA consultant or person responsible for LCA:
Bernardo Salomon - Goodbody Clearstream

Approved:

SIGNATURE OF PROGRAMME OPERATOR



Pat Barry, CEO - Irish Green Building Council

Product

Product description:

A domestic application drainage channel manufactured in Belgium. The channel is produced from high-strength polypropylene with a galvanised steel grate and polyamide. Stora Ellipse channels are available in nominal widths of B=100, B=150 and B=200. For the LCA representative unit assessed in this study (Ellipse B125), the dimensions are: weight 1kg; overall depth 100mm, nominal width 125mm. The drainage channel selected for the study is composed of a polypropylene channel (64%), and polyamide grating (36%). The product is manufactured to BS EN 1433.

Product specification:

Loading B125 – C250. Size range 100mm by 110mm height.

Technical data:

Designed primarily for pedestrian and light-vehicle use (Class A15, B125, and C250), the system features a 100 mm internal width and optimised hydraulic flow due to its smooth internal profile.

More information available on:

<https://stora-drain.be/>

Representative product for study:

- S6500453

Additional configurations available:

Range	Code	Description	Grate	Loading	Weight
S6500453	X5401000007	100mm wide. Stora Drain Ellipse. Polyamide grating 110mm High 1m long	Polyamide	B125	2.8
S6500455	X5401000012	100mm wide. Stora Drain Ellipse. Polypropylene Slot 110mm High 1m long	Polypropylene	C250	2.4

Market/Geographical Area:

Europe

Reference service life, product

No reference service life is applied to the product but the technical lifespan is 60 years.

Reference service life, building or construction works

Not relevant

LCA: Calculation rules

Declared unit:

1 kg STORA-DRAIN Polypropylene Channel

kg per Declared unit 1

Cut-off criteria:

All relevant inputs and outputs - like emissions, energy and materials - have been taken into account in this LCA, and in accordance with EN15804+A2:2019. The study covers at least 95% of the materials and energy per module and at least 99% of the total use of materials and energy of each unit process.

Allocation:

Allocation follows the hierarchy of ISO 14044 and EN 15804+A2. Mass allocation was applied to shared manufacturing inputs (e.g., electricity)

Data quality:

Primary data represent calendar year 2024 manufacturing at the Belgian site. Secondary datasets are from EcoInvent (EN 15804 add-on), geographically representative (EU/country-specific electricity) and within a ≤ 10 -year reference period.

Time Representativeness

In this LCA the background data is from EcoInvent version 3.9.1. Thus the age of the data relating to the manufacturing of the drainage channel components, and data relating to the background processes for environmental impacts is less than 3. Time representativeness is considered to be Very Good.

Geographical Representativeness

The material references, from EcoInvent version 3.9.1, relate to "RER" generally. However the electricity is related to the country of manufactured. Geographical representativeness is considered to be Good.

Technical Representativeness

The material references are general in nature and a conservative approach has been taken. They are based on EcoInvent version 3.9.1. Technical representativeness is considered to be Good

Scope and type of EPD (X = Module declared; ND = Module not declared)

Product stage			Construction installation stage		Use stage							End of life stage				Beyond the system boundaries
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X

System boundary:

The system boundary follows cradle-to-gate (A1–A5) with the inclusion of end-of-life modules C1–C4 and module D, in accordance with EN 15804+A2. The use stage (B1–B7) is excluded, as the products do not require operational energy or maintenance.

Product stage (A1–A3).

A1 covers the extraction, processing and manufacture of polypropylene and polyamide components; A2 includes inbound transport to the manufacturing site in Nuneaton; A2 includes inbound transport to the manufacturing site in Belgium; A3 includes manufacturing through an assembly process of all the components and the product packaging for distribution. Allocation follows EN 15804 §6.4.3.2. Biogenic carbon content for wood packaging is quantified per EN 16449 (default 50 % C on an oven-dry basis, converted to CO₂ with 44/12).

Construction stage (A4–A5).

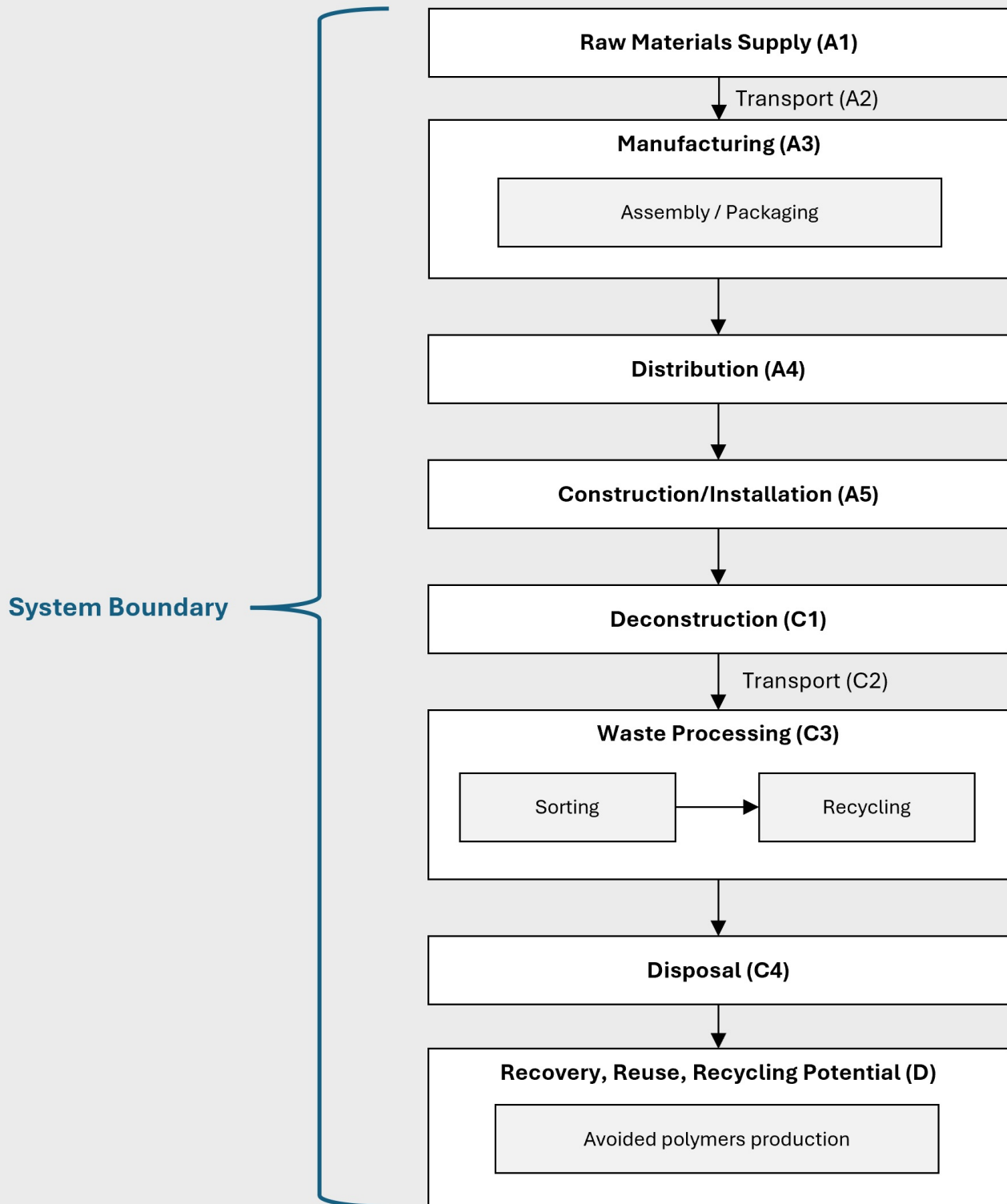
A4 models distribution to the installation site using documented routes; where specific data are unavailable, EPD Ireland PCR Part A defaults are applied. A5 models installation ancillaries and packaging waste treatment up to end-of-waste. Packaging fates follow the PCR's Irish defaults (66 % recycling / 20 % energy recovery / 14 % landfill).

End-of-life stage (C1–C4).

C1 covers deconstruction/demolition energy; C2 covers transport to EoL treatment (50 km default); C3 covers waste processing up to end-of-waste (e.g., sorting, crushing, metal separation); C4 covers final disposal.

Module D (beyond system boundary).

Module D reports the potential benefits/loads to future systems from net outputs (e.g., recycles or exported energy) using substitution.

**Additional technical information:**

Electricity modelling

Electricity is supplied from the grid, and is modelled as the average production mix for Belgium. The CO₂ intensity of the electricity is 0.185 kg CO₂eq per kWh

LCA: Scenarios and additional technical information

The following information describes the scenarios in the different modules of the EPD.

A4 Transport to customer

Road Fondatel → Antwerp: 105.4 km, Sea Antwerp → Dublin: 1,172.32km, final distribution in Ireland 200 km by road (PCR default).

Vehicle datasets: lorry 16–32 t; container ship (consistent with EN 15804+A2 background).

A5 Installation

Channels placed in trench and secured per manufacturer's guide. Two variants—pick the one that matches the project:

A5 Installation

Channels are placed in trench and secured with concrete (673 kg per metre installed). Packaging treated to end-of-waste in A5 using Irish default split 66% recycling / 20% recovery (WtE) / 14% landfill.

Use stage (B1–B7): Not declared—no operational energy, water, maintenance, or replacement required for the channel body.

C1 Deconstruction/demolition

Mechanical removal of channels at end of service life; diesel use per standard building EoL assumptions (no product-specific maintenance burden during life).

C2 Transport to EoL

50 km by lorry to sorting/recycling or to waste facility (adjust if you have a local distance).

C3 Waste processing

Segregated PP is processed to recyclate (granulate/flakes) when collected

C4 Disposal

Module D (beyond system boundary):

PP body: Credit for substitution of virgin PP granulate with recycled PP produced from the product at EoL.

Note: Report net benefits only (output recycled minus input recycled).

LCA: Results

The LCA results are presented below for the declared unit defined on page 2 of the EPD document.

Environmental impact												
Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D	
GWP-total	kg CO ₂ -eq	4.89E+00	6.78E-02	1.12E+00	8.01E-02	4.79E+01	2.12E+00	9.25E-03	0.00E+00	0.00E+00	-4.32E+00	
GWP-fossil	kg CO ₂ -eq	4.89E+00	6.78E-02	1.16E+00	8.01E-02	4.78E+01	2.12E+00	9.24E-03	0.00E+00	0.00E+00	-4.32E+00	
GWP-biogenic	kg CO ₂ -eq	0.00E+00	0.00E+00	-4.99E-02	0.00E+00	4.99E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
GWP-luluc	kg CO ₂ -eq	1.75E-03	3.35E-05	6.11E-03	4.34E-05	3.11E-02	1.56E-04	4.56E-06	0.00E+00	0.00E+00	-8.39E-04	
ODP	kg CFC11-eq	4.12E-08	1.48E-09	3.65E-08	1.65E-09	3.02E-07	3.31E-08	2.01E-10	0.00E+00	0.00E+00	-2.00E-08	
AP	mol H ⁺ -eq	1.96E-02	1.50E-04	5.72E-03	5.61E-04	1.75E-01	2.71E-02	2.02E-05	0.00E+00	0.00E+00	-1.72E-02	
EP-FreshWater	kg P -eq	7.11E-04	4.82E-06	3.50E-04	5.16E-06	5.75E-03	2.89E-05	6.57E-07	0.00E+00	0.00E+00	-3.89E-04	
EP-Marine	kg N -eq	5.38E-03	3.74E-05	1.82E-03	1.39E-04	5.24E-02	1.25E-02	5.10E-06	0.00E+00	0.00E+00	-4.95E-03	
EP-Terrestrial	mol N -eq	3.29E-02	3.78E-04	1.97E-02	1.52E-03	5.77E-01	1.36E-01	5.18E-05	0.00E+00	0.00E+00	-2.88E-02	
POCP	kg NMVOC-eq	1.32E-02	2.28E-04	8.33E-03	5.33E-04	1.70E-01	3.78E-02	3.14E-05	0.00E+00	0.00E+00	-1.15E-02	
ADP-minerals&metals ¹	kg Sb-eq	1.39E-05	2.27E-07	5.45E-06	2.35E-07	2.39E-04	9.17E-07	3.09E-08	0.00E+00	0.00E+00	-1.26E-05	
ADP-fossil ¹	MJ	1.08E+02	9.70E-01	2.57E+01	1.12E+00	3.31E+02	2.76E+01	1.32E-01	0.00E+00	0.00E+00	-9.48E+01	
WDP ¹	m ³	4.08E+00	4.82E-03	7.10E-01	5.18E-03	4.55E+00	3.53E-02	6.56E-04	0.00E+00	0.00E+00	-3.73E+00	

GWP-total = Global Warming Potential total; GWP-fossil = Global Warming Potential fossil fuels; GWP-biogenic = Global Warming Potential biogenic; GWP-luluc = Global Warming Potential land use and land use change; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential, Accumulated Exceedance; EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment; EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment; EP-terrestrial = Eutrophication potential, Accumulated Exceedance; POCP = Formation potential of tropospheric ozone; ADP-minerals&metals = Abiotic depletion potential for non-fossil resources; ADP-fossil = Abiotic depletion for fossil resources potential; WDP = Water (user) deprivation potential, deprivation-weighted water consumption

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"







1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator

Remarks on environmental impacts

Product average and variability

This EPD reports results per declared unit of 1 kg and is based on an LCA modelled for a representative product. Because all portfolio products are materially identical and produced using the same process route, LCIA results per 1 kg are expected to show negligible variability within the portfolio; differences between products are therefore primarily related to the mass per item (kg per product) and are addressed using the conversion table (impact per item = impact per kg × kg per item).

While LCIA results per declared unit (1 kg) are identical for all products, item-level impacts vary –14% relative to the representative product due solely to differences in product mass.

Additional environmental impact indicators												
Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D	
 PM	Disease incidence	2.33E-07	5.05E-09	9.57E-08	5.34E-09	2.08E-06	3.68E-08	6.89E-10	0.00E+00	1.00E+00	-2.21E-07	
 IRP ²	kgBq U235 -eq	4.11E-01	1.31E-03	4.51E-01	1.36E-03	6.91E-01	7.43E-03	1.78E-04	0.00E+00	2.00E+00	-1.91E-01	
 ETP-fw ¹	CTUe	7.18E+00	4.76E-01	6.86E+00	5.49E-01	1.85E+02	1.34E+01	6.49E-02	0.00E+00	3.00E+00	-5.04E+00	
 HTP-c ¹	CTUh	9.33E-10	3.10E-11	7.20E-09	3.60E-11	1.76E-08	2.03E-10	4.00E-12	0.00E+00	4.00E+00	-6.89E-10	
 HTP-nc ¹	CTUh	1.57E-08	6.89E-10	1.30E-08	7.21E-10	4.02E-07	5.21E-09	9.40E-11	0.00E+00	5.00E+00	-1.12E-08	
 SQP ¹	dimensionless	8.01E+00	5.82E-01	4.89E+02	5.80E-01	2.30E+02	1.68E+00	7.93E-02	0.00E+00	6.00E+00	-3.67E+00	

PM = Particulate Matter emissions; IRP = Ionizing radiation – human health; ETP-fw = Eco toxicity – freshwater; HTP-c = Human toxicity – cancer effects; HTP-nc = Human toxicity – non cancer effects; SQP = Potential Soil Quality Index (dimensionless)




"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

1. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator
2. This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Resource use												
Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D	
 PERE	MJ	4.34E+00	1.51E-02	9.06E+01	1.60E-02	8.90E+00	7.74E-02	2.06E-03	0.00E+00	0.00E+00	-2.32E+00	
 PERM	MJ	0.00E+00	0.00E+00	4.00E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
 PERT	MJ	4.34E+00	1.51E-02	9.10E+01	1.60E-02	8.90E+00	7.74E-02	2.06E-03	0.00E+00	0.00E+00	-2.32E+00	
 PENRE	MJ	9.85E+01	8.86E-01	2.47E+01	1.02E+00	3.11E+02	2.50E+01	1.21E-01	0.00E+00	0.00E+00	-8.62E+01	
 PENRM	MJ	9.03E+00	8.41E-02	1.03E+00	9.76E-02	2.00E+01	2.59E+00	1.15E-02	0.00E+00	0.00E+00	-8.58E+00	
 PENRT	MJ	1.08E+02	9.70E-01	2.57E+01	1.12E+00	3.31E+02	2.76E+01	1.32E-01	0.00E+00	0.00E+00	-9.48E+01	
 SM	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
 RSF	MJ	1.14E-01	2.89E-04	4.69E-02	2.89E-04	8.26E-02	7.61E-04	3.91E-05	0.00E+00	0.00E+00	-5.28E-02	
 NRSF	MJ	1.52E-01	5.67E-04	2.84E-01	5.83E-04	3.52E-01	1.96E-03	7.78E-05	0.00E+00	0.00E+00	-6.92E-02	
 FW	m ³	9.83E-02	1.17E-04	1.58E-02	1.22E-04	4.47E-01	1.08E-03	1.60E-05	0.00E+00	0.00E+00	-8.85E-02	






PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non-renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary materials; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Net use of fresh water

*Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

End of life - Waste												
Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D	
	HWD	kg	7.16E-02	9.11E-04	5.28E-02	1.06E-03	6.02E-01	7.77E-03	1.22E-04	0.00E+00	0.00E+00	-5.86E-02
	NHWD	kg	2.19E-01	4.70E-02	2.71E-01	4.61E-02	1.22E+01	1.06E-02	6.41E-03	0.00E+00	0.00E+00	-1.87E-01
	RWD	kg	1.06E-04	3.17E-07	1.11E-04	3.27E-07	1.72E-04	1.60E-06	4.32E-08	0.00E+00	0.00E+00	-4.90E-05

HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

End of life - Output flow												
Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D	
	CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MFR	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.44E-03	0.00E+00	0.00E+00	1.00E+00	0.00E+00	0.00E+00
	EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.42E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported energy electrical; EET = Exported energy thermal

"Reading example: 9.0 E-03 = 9.0*10⁻³ = 0.009"

Biogenic Carbon Content		
Indicator	Unit	At the factory gate
Biogenic carbon content in product	kg C	0.00E+00
Biogenic carbon content in accompanying packaging	kg C	6.79E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO₂

Additional requirements

Dangerous substances






None of the substances contained in the product are listed in the "Candidate List of Substances of Very High Concern for authorisation", or they do not exceed the limit for registration with the European Chemicals Agency.

Mandatory additional information on release of dangerous substances to indoor air, soil and water.

Not relevant

Bibliography

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