

# ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN15804+A2

## STORA-DRAIN Polymer Concrete Channel



**Owner of the declaration:**

Stora Drain

**Product:**

STORA-DRAIN Polymer Concrete 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-25-262

**Issue date:**

30.04.2026

**Valid to:**

29.04.2031

## General information

### Product

STORA-DRAIN Polymer Concrete Channel

### Program operator:

EPD Ireland  
19 Mountjoy Square, Dublin D01 E8P5  
Phone: +353 (01) 6815862  
web: <https://www.igbc.ie/epd-home/>

### Declaration number:

EPDIE-25-262

### 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 Polymer Concrete 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](mailto:brian.kelly@ejco.com)

### Manufacturer:

O.P.S.O. Sp. z o.o. STORA-DRAIN

### Place of production:

O.P.S.O. Sp. z o.o. STORA-DRAIN  
Ul. Spółdzielcza 58  
58-500 Jelenia Góra, Poland

### Issue date:

30.04.2026

### Valid to:

29.04.2031

### Year of study:

2024

### 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 polymer concrete drainage system manufactured in Poland. The system is suited for application's from low loading to heavy-duty loading applications such as public areas, commercial/industrial yards, car parks and service stations where slow-moving heavy vehicles operate. The system is available in several widths and in 1.0 m or 0.5 m lengths, with different grating options. For the LCA representative unit assessed in this study (SELF 100 in B125 configuration), the dimensions are: weight 1kg; overall height 100 mm; internal width (B) 100 mm; external width (D) 120 mm. The drainage channel selected for the study is composed of a polymer concrete channel (71%), a ductile iron grating (27%), low-alloy steel fixings (1%) and polyamide locking arms (1%). The product is manufactured to BS EN 1433.

### Product specification:

Loading A15 – F900. Size ranges from 100mm wide to 400mm wide. 60mm height to 460mm height.

### Technical data:

The channels are composed of mineral aggregates bound with polyester resin and are available in widths of 100–300 mm and load classes A15–F900. The system includes tongue-and-groove joints and optional galvanised steel or ductile iron gratings.

More information available on:

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

Representative product for study:

- SE10061373

Additional configurations available:

Range	Code	Description	Grate	Loading	Weight
SE10061100N	X5501000007	100mm wide. Stora Drain Self A15 Steel grating 60mm High 1m Long	Galvanised	A15	6.2
SE10081100N	X5501000008	100mm wide. Stora Drain Self A15 Steel grating 80mm High 1m Long	Galvanised	A15	6.7
SE10101100SN	X5501000009	100mm wide. Stora Drain Self A15 Steel grating 100mm High 1m Long	Galvanised	A15	6.7
SE10121100N	X5501000010	100mm wide. Stora Drain Self A15 Steel grating 120mm High 1m Long	Galvanised	A15	7.9
SE10161100N	X5501000011	100mm wide. Stora Drain Self A15 Steel grating 160mm High 1m Long	Galvanised	A15	10.5
SE15121110	X5501000024	150mm wide. Stora Drain Self A15 Steel grating 120mm High 1m Long	Galvanised	A15	16.2
SE15191110N	X5501000025	150mm wide. Stora Drain Self A15 Steel grating 190mm High 1m Long	Galvanised	A15	21.8
SE10061373	X5501000013	100mm wide. Stora Drain Self B125 DI grating 60mm High 1m Long	Ductile	B125	9.7
SE10081373	X5501000014	100mm wide. Stora Drain Self B125 DI grating 80mm High 1m Long	Ductile	B125	10.2
SE10101373S	X5501000015	100mm wide. Stora Drain Self B125 DI grating 100mm High 1m Long	Ductile	B125	11.1
SE10121373	X5501000017	100mm wide. Stora Drain Self B125 DI grating 120mm High 1m Long	Ductile	B125	13.5
SE10161373	X5501000018	100mm wide. Stora Drain Self B125 DI grating 160mm High 1m Long	Ductile	B125	13.5
SE15121327	X5501000026	150mm wide. Stora Drain Self B125 DI grating 120mm High 1m Long	Ductile	B125	21.8
SE15191327N	X5501000027	150mm wide. Stora Drain Self B125 DI grating 190mm High 1m Long	Ductile	B125	25.6
SE20131326	X5501000314	200mm wide. Stora Drain Self B125 DI grating 130mm High 1m Long	Ductile	B125	30.2
SE20241326N	X5501000315	200mm wide. Stora Drain Self B125 DI grating 240mm High 1m Long	Ductile	B125	35.7
ST10061367	X5501000322	100mm wide. Stora Drain Top B125 DI grating 65mm High 1m Long	Ductile	B125	12.8
ST10101367	X5501000324	100mm wide. Stora Drain Top B125 DI grating 100mm High 1m Long	Ductile	B125	16.1
ST10101367	X5501000324	100mm wide. Stora Drain Top B125 DI grating 100mm High 1m Long	Ductile	B125	16.1
ST10061352	X5501000326	100mm wide. Stora Drain Top C250 DI grating 65mm High 1m Long	Ductile	C250	15.6
ST10101352	X5501000328	100mm wide. Stora Drain Top C250 DI grating 100mm High 1m Long	Ductile	C250	16.5
ST10151352	X5501000330	100mm wide. Stora Drain Top C250 DI grating 150mm High 1m Long	Ductile	C250	19
ST15051000	X5501000349	150mm wide. Stora Drain Topline C250 50mm High 1m Long	Ductile	C250	11.4
SB10081352	X5501000036	100mm wide. Stora Drain Base C250 DI grating 80mm High 1m Long	Ductile	C250	14.7
SB10101352	X5501000037	100mm wide. Stora Drain Base C250 DI grating 100mm High 1m Long	Ductile	C250	15.8
SB10151352	X5501000001	100mm wide. Stora Drain Base C250 DI grating 150mm High 1m Long	Ductile	C250	18.5
SB10201352	X5501000038	100mm wide. Stora Drain Base C250 DI grating 200mm High 1m Long	Ductile	C250	22
SB10251352	X5501000039	100mm wide. Stora Drain Base C250 DI grating 250mm High 1m Long	Ductile	C250	24.3
SB15121353	X5501000442	150mm wide. Stora Drain Base C250 DI grating 120mm High 1m Long	Ductile	C250	22.8
SB15191353	X5501000105	150mm wide. Stora Drain Base C250 DI grating 195mm High 1m Long	Ductile	C250	29.2
SB15241353	X5501000444	150mm wide. Stora Drain Base C250 DI grating 245mm High 1m Long	Ductile	C250	33.6
SB20121354	X5501000449	200mm wide. Stora Drain Base C250 DI grating 120mm High 1m Long	Ductile	C250	28.9
SB20241354	X5501000451	200mm wide. Stora Drain Base C250 DI grating 245mm High 1m Long	Ductile	C250	38.9
SB20291354	X5501000452	200mm wide. Stora Drain Base C250 DI grating 295mm High 1m Long	Ductile	C250	44.1
SB30291355	X5501000456	300mm wide. Stora Drain Base C250 DI grating 295mm High 1m Long	Ductile	C250	66.9
SO10151356	X5501000004	100mm wide. Stora Drain Optima D400 DI grating 150mm High 1m Long	Ductile	D400	22.8
SO10201356	X5501000137	100mm wide. Stora Drain Optima D400 DI grating 200mm High 1m Long	Ductile	D400	26.9
SO10251356	X5501000138	100mm wide. Stora Drain Optima D400 DI grating 250mm High 1m Long	Ductile	D400	31.2
SO15191357	X5501000139	150mm wide. Stora Drain Optima D400 DI grating 195mm High 1m Long	Ductile	D400	35.1
SO15241357	X5501000134	150mm wide. Stora Drain Optima D400 DI grating 245mm High 1m Long	Ductile	D400	38.1
SO20241358	X5501000140	200mm wide. Stora Drain Optima D400 DI grating 245mm High 1m Long	Ductile	D400	46.1
SO30291359	X5501000142	300mm wide. Stora Drain Optima D400 DI grating 295mm High 1m Long	Ductile	D400	73.7
SOP10151356	X5501000041	100mm wide. Stora Drain Optima Plus D400 DI grating 150mm High 1m Long	Ductile	D400	23.6

SOP10201356	X5501000042	100mm wide. Stora Drain Optima Plus D400 DI grating 200mm High 1m Long	Ductile	D400	27.7
SOP10251356	X5501000043	100mm wide. Stora Drain Optima Plus D400 DI grating 250mm High 1m Long	Ductile	D400	32.7
SOP15191357	X5501000047	150mm wide. Stora Drain Optima Plus D400 DI grating 195mm High 1m Long	Ductile	D400	35.5
SOP15241357	X5501000048	150mm wide. Stora Drain Optima Plus D400 DI grating 245mm High 1m Long	Ductile	D400	38.5
SOP20241358	X5501000191	200mm wide. Stora Drain Optima Plus D400 DI grating 245mm High 1m Long	Ductile	D400	46.5
SOP30291359	X5501000518	300mm wide. Stora Drain Optima Plus D400 DI grating 295mm High 1m Long	Ductile	D400	74.1
SO10151370	X5501000478	100mm wide. Stora Drain Optima E600 DI grating 150mm High 1m Long	Ductile	E600	25.2
SO10201370	X5501000480	100mm wide. Stora Drain Optima E600 DI grating 200mm High 1m Long	Ductile	E600	29.3
SO10251370	X5501000482	100mm wide. Stora Drain Optima E600 DI grating 250mm High 1m Long	Ductile	E600	34.3
SO15191371	X5501000171	150mm wide. Stora Drain Optima E600 DI grating 195mm High 1m Long	Ductile	E600	42.5
SO15241371	X5501000493	150mm wide. Stora Drain Optima E600 DI grating 245mm High 1m Long	Ductile	E600	51.3
SO20241372	X5501000497	200mm wide. Stora Drain Optima E600 DI grating 245mm High 1m Long	Ductile	E600	60.6
SOP10151370	X5501000044	100mm wide. Stora Drain Optima Plus E600 DI grating 150mm High 1m Long	Ductile	E600	26
SOP10201370	X5501000508	100mm wide. Stora Drain Optima Plus E600 DI grating 200mm High 1m Long	Ductile	E600	30.1
SOP10251370	X5501000510	100mm wide. Stora Drain Optima Plus E600 DI grating 250mm High 1m Long	Ductile	E600	35.1
SOP15191371	X5501000049	150mm wide. Stora Drain Optima Plus E600 DI grating 195mm High 1m Long	Ductile	E600	39.1
SOP15241371	X5501000050	150mm wide. Stora Drain Optima Plus E600 DI grating 245mm High 1m Long	Ductile	E600	47.9
SOP20241372	X5501000254	200mm wide. Stora Drain Optima Plus E600 DI grating 245mm High 1m Long	Ductile	E600	60.3
SU10235337	X5501000529	100mm wide. Stora Drain Super F900 DI grating 235mm High 1m Long	Ductile	F900	44.8
SU10285337	X5501000530	100mm wide. Stora Drain Super F900 DI grating 287mm High 1m Long	Ductile	F900	49.8
SU15171328	X5501000065	150mm wide. Stora Drain Super F900 DI grating 170mm High 1m Long	Ductile	F900	54.1
SU15221328	X5501000066	150mm wide. Stora Drain Super F900 DI grating 220mm High 1m Long	Ductile	F900	58.3
SU15271328	X5501000067	150mm wide. Stora Drain Super F900 DI grating 270mm High 1m Long	Ductile	F900	63.1
SU20131325	X5501000539	200mm wide. Stora Drain Super F900 DI grating 130mm High 1m Long	Ductile	F900	54
SU20181325	X5501000541	200mm wide. Stora Drain Super F900 DI grating 180mm High 1m Long	Ductile	F900	67.9
SU20241325	X5501000542	200mm wide. Stora Drain Super F900 DI grating 240mm High 1m Long	Ductile	F900	71.5
SU20301325	X5501000197	200mm wide. Stora Drain Super F900 DI grating 300mm High 1m Long	Ductile	F900	74.24
SU30241333	X5501000549	300mm wide. Stora Drain Super F900 DI grating 245mm High 1m Long	Ductile	F900	119.9
SU30301333	X5501000550	300mm wide. Stora Drain Super F900 DI grating 305mm High 1m Long	Ductile	F900	122.9
SU30361333	X5501000551	300mm wide. Stora Drain Super F900 DI grating 365mm High 1m Long	Ductile	F900	128.9
SU40461368	X5501000555	400mm wide. Stora Drain Super F900 DI grating 460mm High 1m Long	Ductile	F900	140.6

#### 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 Polymer Concrete 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 Polish site. Secondary datasets are from EcolInvent (EN 15804 add-on), geographically representative (EU/country-specific electricity) and within a  $\leq 10$ -year reference period.

#### Time Representativeness

In this LCA the background data is from EcolInvent 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 EcolInvent 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 EcolInvent version 3.9.1. Technical representativeness is considered to be Fair

## 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 polymer concrete channel base, ductile iron grating, and any ancillary materials; A2 includes inbound transport to the manufacturing site in Poland; A3 includes manufacturing through mixing, curing and preparation of the drainage channel to be assembled with the other components which are supplied in their final form. 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 CO<sub>2</sub> with 44/12).

### Construction stage (A4–A5).

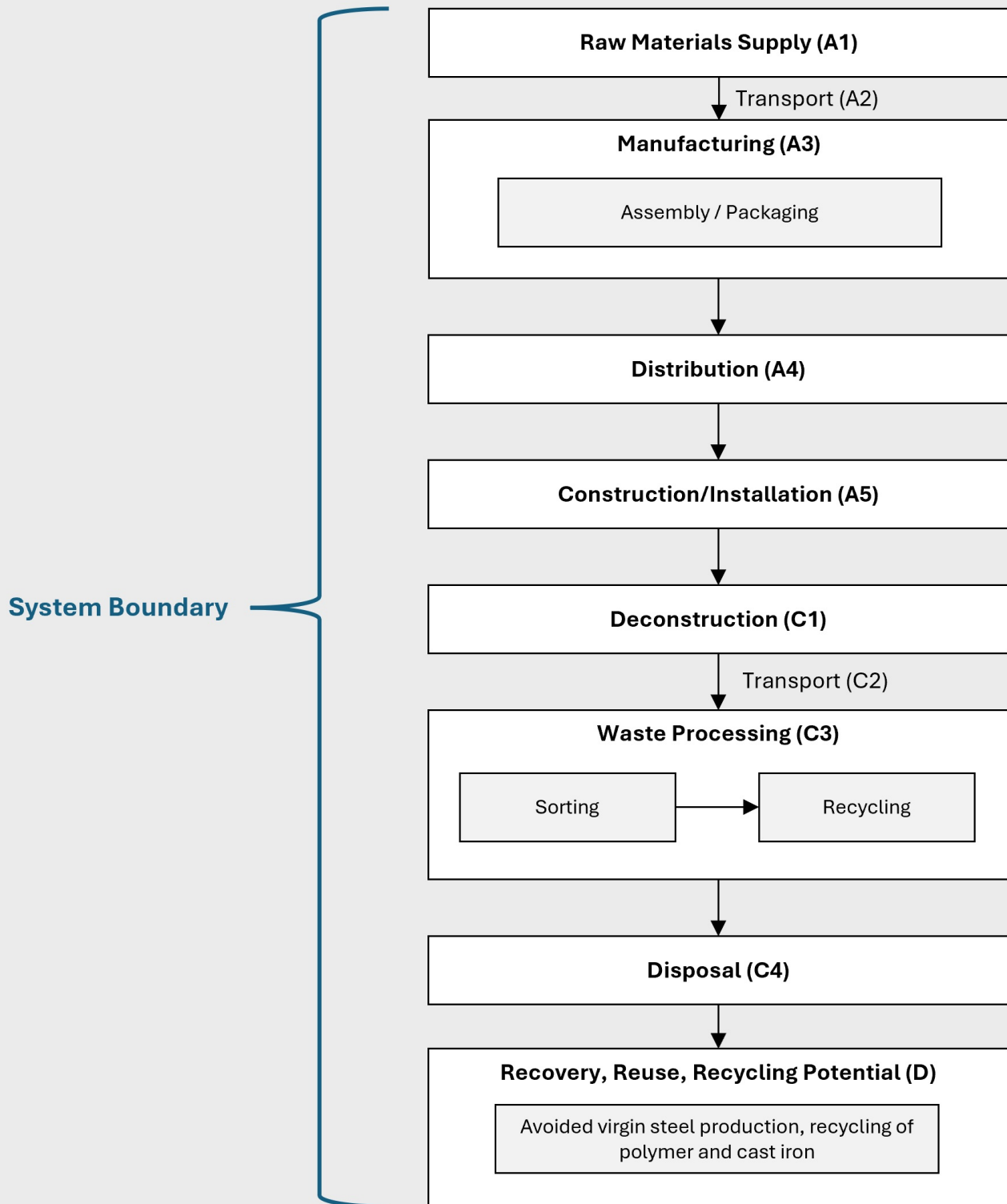
A4 models distribution to the installation site using documented routes; where specific data are unavailable, EPD Ireland PCR Part A defaults are applied. A5 models installation ancillaries and packaging waste treatment up to end-of-waste. Packaging fates follow the PCR's Irish defaults (66% recycling / 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 Poland. The CO<sub>2</sub> intensity of the electricity is 0.98 kg CO<sub>2</sub>eq 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 OPSO (PL) → Gdańsk port: 549.6 km, sea Gdańsk → Dublin: 2,381.67 km, final distribution in Ireland 200 km by road (EPD Ireland PCR default). Datasets: lorry 16–32 t, EURO 6 (RER) and freight container ship (GLO).

### 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 — product requires no operational energy, water, or maintenance.

### C1 Deconstruction

40.38 MJ/FU (diesel), mechanical removal assumptions from 'Model for LCA of Buildings' (2018).

### C2 Transport to EoL

50 km lorry (16–32 t, EURO 6).

### C3 Waste processing

Segregated metals and plastics treated as 100% recycled per EPD Ireland PCR; mineral polymer-concrete matrix processed as residual.

### C4 Disposal

Disposal of residual fractions where applicable; polymer-concrete matrix not recycled.

Module D: Substitution approach for recycling cast iron, low-alloy steel, and PA6 only; no D credit for polymer-concrete matrix. Net recyclable mass credited = 0.895 kg/FU.

## 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 <sub>2</sub> -eq	9.54E-01	4.84E-02	1.39E-01	1.68E-01	9.60E+00	4.22E-01	9.24E-03	1.56E-02	0.00E+00	-5.36E-01	
GWP-fossil	kg CO <sub>2</sub> -eq	9.54E-01	4.84E-02	1.87E-01	1.68E-01	9.54E+00	4.22E-01	9.23E-03	1.56E-02	0.00E+00	-5.36E-01	
GWP-biogenic	kg CO <sub>2</sub> -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 <sub>2</sub> -eq	5.91E-04	2.44E-05	1.15E-03	8.98E-05	6.20E-03	3.10E-05	4.56E-06	1.66E-05	0.00E+00	-2.23E-04	
ODP	kg CFC 11-eq	4.05E-07	1.05E-09	4.88E-09	3.50E-09	6.04E-08	6.60E-09	2.01E-10	1.92E-09	0.00E+00	-1.01E-08	
AP	mol H <sup>+</sup> -eq	4.01E-03	1.05E-04	1.09E-03	1.06E-03	3.50E-02	5.40E-03	2.00E-05	1.53E-04	0.00E+00	-2.13E-03	
EP-FreshWater	kg P -eq	2.80E-04	3.44E-06	7.43E-05	1.10E-05	1.15E-03	5.77E-06	6.56E-07	6.37E-06	0.00E+00	-1.98E-04	
EP-Marine	kg N -eq	8.53E-04	2.66E-05	3.34E-04	2.65E-04	1.04E-02	2.50E-03	5.09E-06	4.77E-05	0.00E+00	-5.03E-04	
EP-Terrestrial	mol N -eq	8.84E-03	2.72E-04	3.63E-03	2.86E-03	1.15E-01	2.72E-02	5.21E-05	5.17E-04	0.00E+00	-5.23E-03	
POCP	kg NMVOC-eq	3.99E-03	1.64E-04	1.57E-03	1.04E-03	3.40E-02	7.54E-03	3.10E-05	1.49E-04	0.00E+00	-2.48E-03	
ADP-minerals&metals <sup>1</sup>	kg Sb-eq	4.34E-06	1.62E-07	1.05E-06	5.04E-07	4.77E-05	1.83E-07	3.09E-08	4.51E-07	0.00E+00	-1.52E-06	
ADP-fossil <sup>1</sup>	MJ	1.49E+01	6.93E-01	3.26E+00	2.36E+00	6.61E+01	5.51E+00	1.32E-01	2.47E-01	0.00E+00	-6.61E+00	
WDP <sup>1</sup>	m <sup>3</sup>	3.23E-01	3.44E-03	1.28E-01	1.10E-02	9.08E-01	7.04E-03	6.55E-04	2.90E-03	0.00E+00	-1.26E-01	

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<sup>-3</sup> = 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 from -36% to +1349% 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	6.88E-08	3.61E-09	1.87E-08	1.14E-08	4.14E-07	7.35E-09	6.88E-10	1.02E-08	1.00E+00	-4.50E-08	
 IRP <sup>2</sup>	kgBq U235 -eq	4.26E-02	9.30E-04	2.07E-02	2.90E-03	1.38E-01	1.48E-03	1.77E-04	2.18E-03	2.00E+00	-3.60E-02	
 ETP-fw <sup>1</sup>	CTUe	9.16E+00	3.40E-01	1.34E+00	1.16E+00	3.70E+01	2.67E+00	6.48E-02	1.12E-01	3.00E+00	-1.95E+00	
 HTP-c <sup>1</sup>	CTUh	7.17E-09	2.20E-11	1.45E-09	7.60E-11	3.52E-09	4.10E-11	4.00E-12	1.50E-11	4.00E+00	-6.68E-09	
 HTP-nc <sup>1</sup>	CTUh	8.47E-08	4.92E-10	2.56E-09	1.54E-09	8.02E-08	1.04E-09	9.40E-11	5.30E-10	5.00E+00	-8.07E-08	
 SQP <sup>1</sup>	dimensionless	2.19E+00	4.15E-01	9.87E+01	1.25E+00	4.59E+01	3.35E-01	7.92E-02	3.12E-01	6.00E+00	-1.15E+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<sup>-3</sup> = 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	5.70E-01	1.08E-02	1.82E+01	3.41E-02	1.78E+00	1.55E-02	2.06E-03	2.23E-02	0.00E+00	-3.24E-01	
 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	5.70E-01	1.08E-02	1.86E+01	3.41E-02	1.78E+00	1.55E-02	2.06E-03	2.23E-02	0.00E+00	-3.24E-01	
 PENRE	MJ	1.40E+01	6.33E-01	3.09E+00	2.15E+00	6.21E+01	4.99E+00	1.21E-01	2.42E-01	0.00E+00	-6.40E+00	
 PENRM	MJ	8.80E-01	6.00E-02	1.74E-01	2.06E-01	4.00E+00	5.18E-01	1.14E-02	5.54E-03	0.00E+00	-2.12E-01	
 PENRT	MJ	1.49E+01	6.93E-01	3.27E+00	2.36E+00	6.61E+01	5.51E+00	1.32E-01	2.48E-01	0.00E+00	-6.61E+00	
 SM	kg	0.00E+00	0.00E+00	1.04E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
 RSF	MJ	7.62E-03	2.05E-04	6.56E-03	6.24E-04	1.65E-02	1.52E-04	3.88E-05	1.90E-04	0.00E+00	-9.55E-03	
 NRSF	MJ	2.00E-02	4.02E-04	1.07E-02	1.25E-03	7.03E-02	3.91E-04	7.65E-05	2.18E-04	0.00E+00	-1.17E-02	
 FW	m <sup>3</sup>	7.17E-03	8.31E-05	2.93E-03	2.65E-04	8.93E-02	2.15E-04	1.55E-05	1.26E-04	0.00E+00	-3.17E-03	






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<sup>-3</sup> = 0.009"

End of life - Waste												
Indicator	Unit	A1	A2	A3	A4	A5	C1	C2	C3	C4	D	
 HWD	kg	8.27E-02	6.50E-04	1.01E-02	2.23E-03	1.20E-01	1.55E-03	1.24E-04	4.07E-04	0.00E+00	-6.54E-02	
 NHWD	kg	4.95E-02	3.35E-02	5.36E-02	9.97E-02	2.44E+00	2.12E-03	6.40E-03	1.78E-01	0.00E+00	-2.16E-02	
 RWD	kg	1.07E-05	2.26E-07	5.38E-06	7.02E-07	3.44E-05	3.19E-07	4.31E-08	1.20E-06	0.00E+00	-9.16E-06	

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

"Reading example: 9.0 E-03 = 9.0\*10<sup>-3</sup> = 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	1.00E+00	0.00E+00	-8.96E-01	
 MER	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	
 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<sup>-3</sup> = 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	1.36E-02

Note: 1 kg biogenic carbon is equivalent to 44/12 kg CO<sub>2</sub>

## **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

- [1] International Standards Office, 2006. ISO 14040: Environmental management — Life cycle assessment - Principles and framework, Switzerland: s.n.
- [2] European Norms, 2019. EN 15804+A2: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products, s.l.: s.n.
- [3] EPD Ireland Product Category Rules: PART A Implementation and use of IS 15804:2012 and CEN TR 16970 in Ireland for the development of Environmental Product Declarations, 17.08.2021 - [www.epdireland.org](http://www.epdireland.org)
- [4] European Commission, 2010. ILCD handbook: General guide for Life Cycle Assessment - Detailed guidance. Luxembourg: Publication Office of the European Union.
- [5] European Commission, 2021. Environmental footprint methods. [Online]  
Available at: [https://environment.ec.europa.eu/news/environmental-footprint-methods-2021-12-16\\_en](https://environment.ec.europa.eu/news/environmental-footprint-methods-2021-12-16_en).
- [6] Life Cycle Assessment Research Center, 2016. Guidance on Data Quality Assessment for Life Cycle Inventory Data. Cincinnati: s.n.
- [7] Gervasio, H. and Dimova, S., Model for Life Cycle Assessment (LCA) of buildings, EUR 29123 EN, Publications Office of the European Union, 2018, ISBN 978-92-79-79973-0, doi:10.2760/10016, JRC110082.
- [8] British Standards Institution (2002) BS EN 1433:2002 Drainage channels for vehicular and pedestrian areas. Classification, design and testing requirements, marking and evaluation of conformity. London: BSI.

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