Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Post-Consumer Recycled Polystyrene Mouldings

from

EHL Profiles Group

EPD of multiple products, based on a representative product post-consumer recycled polystyrene moulding with paper surface L-Profile 55x220 mm HDPS. All included products are listed under product identification in the EPD.

EHL PROFILES

Programme:	The International EPD System, www.environdec.com
Programme operator:	EPD International AB
Type of EPD:	EPD of multiple products, based on a representative product
EPD registration number:	EPD-IES-0032303:001
Version date:	2026-06-08
Validity date:	2031-06-07
	An EPD may be updated or depublished if conditions change. To find the latest version of the EPD and to confirm its validity, see www.environdec.com

GENERAL INFORMATION

Programme Information	
Programme:	The International EPD® System
Address:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden
Website:	www.environdec.com
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Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): *Construction products 2019:14, version 2.0.1, valid until 2030-04-07* *UN CPC code: 369*
PCR review was conducted by: *The Technical Committee of the International EPD® System.* *See www.environdec.com for a list of members.* *Review chair: Rob Rouwette (chair), Noa Meron (cochair).* *The review panel may be contacted via the Secretariat www.environdec.com/contact*

Third-party Verification
Independent third-party verification of the declaration and data, according to ISO 14025:2006, via: ☒ **Individual EPD verification without a pre-verified LCA/EPD tool** Third-party verifier: *Anna Pantze, Tyréns Sverige AB, anna.pantze@tyrens.se, Sweden* Approved by: International EPD® System
Procedure for follow-up of data during EPD validity involves third party verifier: ☐ Yes ☒ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.
For further information about comparability, see EN 15804 and ISO 14025.

INFORMATION ABOUT EPD OWNER

Owner of the EPD: Rindalslist AS member of EHL Profiles Group
Address: Industrivegen 9, 6657 Rindal, Norway
Contact: Georg Aune, georg@rindalslist.no

Address and contact information of the LCA practitioner commissioned by the EPD owner:
Miljögiraff AB
Bläsgatan 2, 414 63 Göteborg, Sweden

Hanna Andréasson, hannaandreasson@miljogiraff.se

Description of the organisation:
EHL Profiles Group is an international manufacturing group with strong expertise in the production of wooden and wood-based mouldings and interior products, supported by efficient sales and distribution networks. EHL Profiles Group, part of Pomona-Gruppen AB, focuses on high-quality production, continuous process development, and reliable supply to our markets. We create an environment that enables all group companies to strengthen their production capabilities and grow sustainably.

Mouldings are a timeless design element that contributes to sustainable living. Whether crafted from wood, composites, or other materials, they enhance interiors while prioritizing eco-conscious practices. For wooden mouldings, the timber stores biogenic carbon absorbed from the atmosphere during tree growth. Choosing mouldings today isn't just about style—it's about shaping a sustainable future for generations to come.

EHL Profiles decorative panels are designed with precision and passion to transform ordinary walls into remarkable decor. Ideal for homeowners, designers, and architects seeking to infuse uniqueness and character into their projects.

With experience, knowledge, and a strong service focus, we've built a reputation as a reliable partner. Our work is driven by how we do things, not just what we do—our values guide and unite us.

At EHL Profiles Group, we integrate sustainability into our operations by prioritizing ethical business, environmental responsibility, and social commitment. We focus on innovation, efficiency, and integrity to align with sustainable practices and support communities and long-term growth.

PRODUCT INFORMATION

Product name: Post-consumer recycled Polystyrene moulding

Product identification: All products included are polystyrene (PS) mouldings made from 100% post-consumer recycled (PCR) polystyrene, high impact polystyrene (HIPS) and have either a paper surface (L-profile) or hot foil transfer paint surface (Skirting). The included products in the EPD are presented in the table below including the dimensions, surface type and wright per running meter. The included products are either of the type with paper surface or the type with hot foil transfer surface.

Product	Norwegian name	Surface type	Weight per running meter (kg/m)
L-Profile 55x70 HDPS	Gipsklar Utforing 55x70 HDPS	Paper	0,589
L-Profile 55x220 HDPS (representative product)	Gipsklar Utforing 55x220 HDPS	Paper	1,250
L-Profile (block) 11x55 HDPS	List for hjørne 11x55 HDPS	Paper	0,303
Skirting (floor) 12x58 HDPS	Fotlist 12x58 HDPS	Hot foil transfer	0,313
Skirting (door/window) 12x58 HDPS	Karmlist 12x58 HDPS	Hot foil transfer	0,313
Skirting (ceiling) 21x34 HDPS	Taklist 21x34 HDPS	Hot foil transfer	0,252
Skirting 18x45 HDPS	Utforing 18x45 HDPS	Hot foil transfer	0,284
Skirting 18x70 HDPS	Utforing 18x70 HDPS	Hot foil transfer	0,446
Skirting 18x95 HDPS	Utforing 18x95 HDPS	Hot foil transfer	0,587
Skirting 18x120 HDPS	Utforing 18x120 HDPS	Hot foil transfer	0,790
Skirting 18x145 HDPS	Utforing 18x145 HDPS	Hot foil transfer	0,992
Skirting 18x170 HDPS	Utforing 18x170 HDPS	Hot foil transfer	1,195
Skirting 18x195 HDPS	Utforing 18x195 HDPS	Hot foil transfer	1,397
Skirting 18x220 HDPS	Utforing 18x220 HDPS	Hot foil transfer	1,600
Skirting 18x250 HDPS	Utforing 18x250 HDPS	Hot foil transfer	1,843
Skirting 18x300 HDPS	Utforing 18x300 HDPS	Hot foil transfer	2,248

Visual representation of the product:

UN CPC code: 369

Product description: EHL's post-consumer recycled polystyrene mouldings designed for indoor use, serving as interior finishing and decorative elements.

Name and location of production site: Rindal, Norway and Xuzhou, China

Multiple products:
All products included in this EPD are post-consumer recycled polystyrene mouldings. Two variations are included in this product group, and they consist of 95% polystyrene (100% recycled PCR), 2% high density polystyrene (HIPS) and 2% surface treatment of either paper or paint. The included products share the same geographical scope and production site and differ only in surface type.

The post-consumer recycled polystyrene moulding with paper surface was chosen as the representative product and specifically the product L-profile 55x220 mm HDPS with representative dimension, as the type and product accounts for a majority of total production volume. As the declared unit is per 1 kg moulding, there is only a difference between the two surface types for the mouldings with either paper or hot foil transfer surface. Therefore, there is no variation between the various dimensions of the included products within each surface type.

In the table above under "product identification", the different dimensions of the included products are presented and their weight per running meter. This can be used to convert the results per 1 kg moulding to per 1 m moulding.

The deviation of the GWP-GHG value relative to the representative product can be seen in "Additional LCA results", as well as the variation of the environmental impact indicator results for modules A-C between any of the products that exceeds 10%.

CONTENT DECLARATION

The content declaration presents the content for the representative product PCR PS moulding L-Profile 55x220mm with paper surface. All included products consist of 95% polystyrene (100% recycled PCR), 2% high density polystyrene (HIPS) and 2% surface treatment of either paper or paint. Product packaging is the same for all included products.

Product content	Mass, kg	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
100% PCR Polystyrene	0,95	100%	0%	0
Virgin High Impact Polystyrene	0,03	0%	0%	0
Paper	0,0196	0%	0%	0
Glue	0,0004	0%	0%	0
Total	1	95%	0	0

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit
Cardboard	0,02	2,0%	0,009
Plastic	0,006	0,6%	0,000
Wood pallet[1]	0,016	1,6%	0,007
Steel straps	0,00038	0,04%	0,000
Total	0,043	4,2%	0,016

1 kg biogenic carbon in the product/packaging is equivalent to the uptake of 44/12 kg of CO_2.

Hazardous substances from the candidate list of SVHC	EC No.	CAS No.	Mass-% per product or declared unit
-	-	-	-

[1] Accounting for the number of reuses (25 times)

LCA INFORMATION

Declared unit:
1 kg polystyrene moulding.

The weight per running meter is presented in the table under “Product identification”.

Reference service life:
Not applicable.

Time representativeness:
The collected data is representative of the year 2025 and was obtained directly from EHL Rindalslist and their supplier.

Geographical scope:
The supply of raw material A1 and its transport A2 is modelled for Global. The manufacturing in module A3 is located in China and storage in Sweden. Module C and D are modelled for Norway.

Database(s) and LCA software used: Ecoinvent 3.11 and SimaPro Craft 10.1.

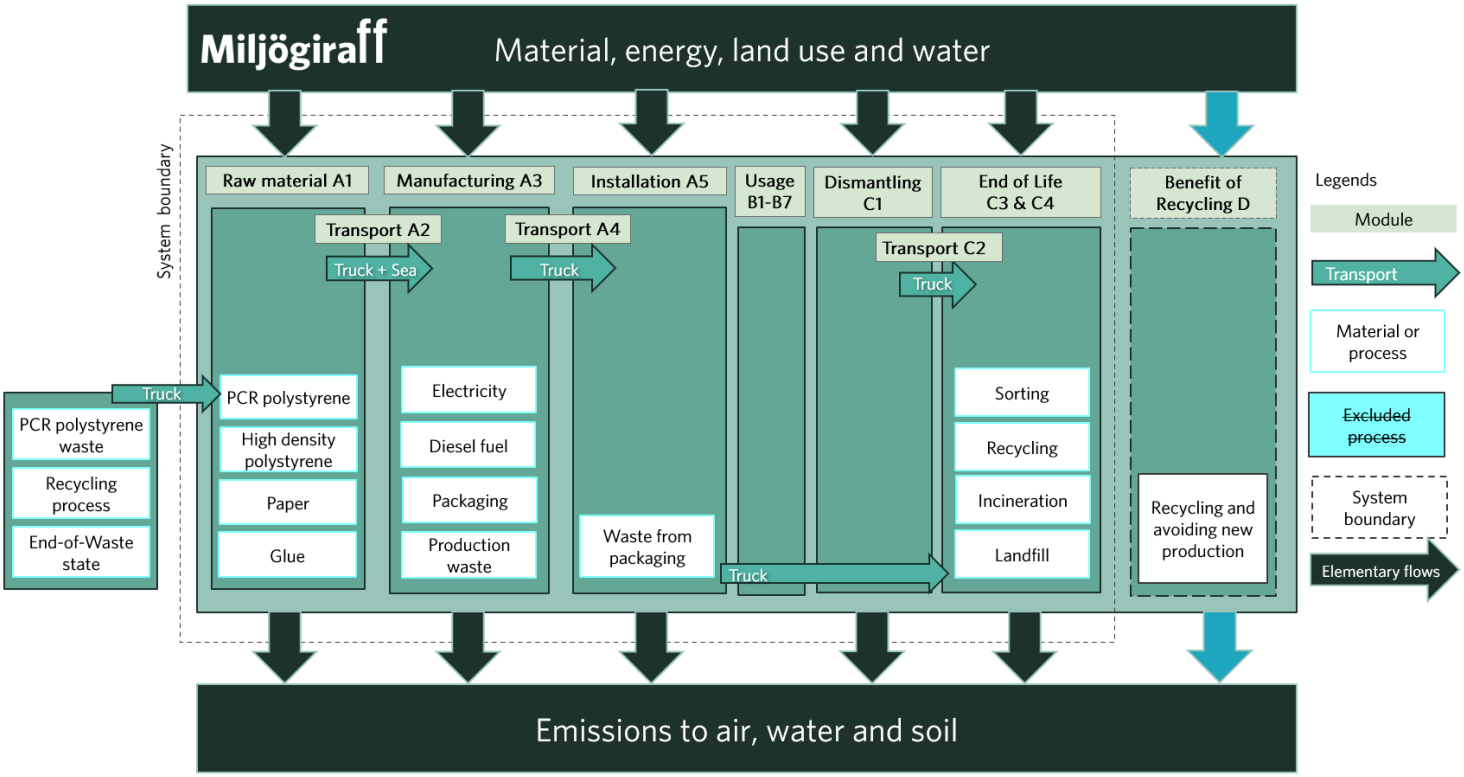
LCIA method:
The LCIA method follows the standard for Construction Products EN 15804:2012+A2:2019/AC:2021. EN 15804:2012+A2:2019/AC:2021 uses the impact categories and characterization factors of the LCIA methods used in Environmental Footprint 3.1 (EF 3.1), with the only difference that biogenic carbon dioxide uptake is calculated as -1 and biogenic carbon dioxide emissions as +1, where EF 3.1 calculates this as 0 and 0, respectively.

Cut-off criteria:
The cut-off criteria established by the PCR is 1% of all material and energy flows to a single unit process and 5% of total inflows (mass and energy) per module. No cut-offs exceeding this limit have been made.

In this study, the infrastructure and capital goods are included in the LCA analysis since it is not possible within reasonable effort to subtract the data on infrastructure/capital goods.

Description of system boundaries:
Cradle to gate with options, modules C1–C4, module D and with optional modules (A1–A3 + C + D and A4-A5 and B1-B7). However, since the product is a passive product, there will be no environmental impact during the use phase.

Process flow diagram:



More information:

(A1-A3) EHL Rindalslist in Norway do not have any inhouse production of the post-consumer recycled polystyrene mouldings but purchase the mouldings from a supplier in China. The post-consumer recycled polystyrene raw material is represented with the dataset “Polystyrene, pellets, recycled {RER}| treatment of waste polystyrene, recycling | Cut-off, U” to account for burdens associated with processing the PCR PS into new raw material. The dataset has been adapted to Global and Res-of-World material and energy input to represent production in China, and the GWP-GHG intensity is 1040 kg CO2 eq./tonne. The production of the polystyrene mouldings at EHL’s suppliers involves transport of raw material with HVO trucks, processing of material with heat to melt the PCR PS particles and HIPS and mould the product, and application of surface treatment paper or hot transfer foil. The polystyrene mouldings are packed in boxes wrapped in plastic on pallets and transported to EHL’s warehouse in Norway by HVO truck and sea freight.

The electricity mix for EHL’s supplier manufacturing has been modelled using a Chinese east coast market data set as no residual electricity mix exist for China. The electiricty is represented using the ecoinvent dataset “Electricity, medium voltage {CN-ECGC}| market for electricity, medium voltage | Cut-off, U”. The climate footprint of the electricity mix is 0,764 kg CO2-eq per kWh.

EHL’s storage of polystyrene mouldings is located in Rindal, Norway. The polystyrene mouldings are already packaged when arriving from the supplier and 50% of the packaging is re-used. The other 50% gets repackaged at EHL where the products are stacked on palletes wrapped in plastic and secured with metal straps. At EHLs storage there thus also some 50% waste from the product packaging from their supplier in China.

The electricity mix for EHL’s storage has been modelled using the residual electricity mix for Norway. This is represented using the ecoinvent dataset “Electricity, medium voltage {NO}| electricity, medium

voltage, residual mix | Cut-off, U". The climate footprint of the electricity mix is 0,73 kg CO2-eq per kWh.

Shared site-level inputs and outputs, such as electricity use, reported in annual amounts are mass allocated to per 1 kg product based on production volume.

(A4) The packaged product is transported 571 km to the average customer. The transport distance is calculated as a weighted average based on the end user city market shares. The road transport is modelled with 90% HVO trucks and 10% diesel EURO 6 truck.

(A5) Installation is assumed to be manual and does not cause additional environmental impacts. The only impacts reported in this module are from end-of-life treatment of the packaging materials, in accordance with the waste scenarios in Module C.

(B1-B7) The mouldings are passive products and therefore, there are no environmental impacts during the use phase.

(C1-C4) After use the product is transported to waste processing. In the C module, default values provided by the PCR 2019:14 v.2.0.1 were used for demolition/deconstruction (C1) as no specific data was obtained. The default values for transport distances to waste treatment (C2) were also used, 80 km for materials not to be incinerated and 130 km for materials to be incinerated. The transport is modelled with a diesel truck, EURO 5, 16-32 metric ton.

For the waste treatment (C3-C4), the relevant end-of-life scenario has been represented with a Norwegian case. Recycling rates for different materials have been adjusted according to post-consumer non-packaging recycling rates (R2) used in the Circular footprint formula of PEF, as found in Annex C1. The remaining waste is assumed to be incinerated (97%) and landfilled (3%), according to the European average scenario stated in PEF Annex C.

As the end-of-life scenario is a mix of recycling, incineration and landfill, a 100% scenario for each waste scenario will also be declared.

(D) Module D accounts for the potential environmental benefits or burdens resulting from material recycling and energy recovery during incineration.

Data quality summary
The EPD is based on data collected by EHL Rindalslist and their supplier in China representing the production year 2025. The EPD is representative of the production of 1 kg polystyrene moulding by EHL Profiles Group Rindalslist with storage in Norway and production in China. The end-of-life stage of the EPD covers Norway.

Primary data have been collected about manufacturing processes and is combined with representative secondary data from the ecoinvent database v.3.11. The quality of the relevant data used for the EPD using EN 15804:2012+A2:2019, Annex E, E.1, is in terms of geographical representativeness very good and good, technical representativeness very good, good and fair, and for time representativeness very good. The reason for using datasets with fair technology representativeness is that it was stated to as "unknown" in ecoinvent 3.11 but one which is a market electricity mix have underlying input electricity processes with very good "current" technology representativeness and the other dataset represents an empty input dataset within the recycle processing that captures additional inputs of energy for sorting and transport.

Modules declared, geographical scope, share of primary data (in GWP-GHG results) and data variation (in GWP-GHG results):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	**A1**	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Modules declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	GLO/ CN	GLO/ CN	CN/NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Share of primary data	36%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	7%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Declaration of data sources, reference years, data categories, and share of primary data:

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Electricity, low voltage {GLO}| market group for electricity, low voltage | Cut-off, U	Collected data, Database	EPD Owner, Supplier, Ecoinvent v3.11	2025	Representative secondary data	0%
Electricity, medium voltage {CN-ECGC}| market for electricity, medium voltage | Cut-off, U	Collected data, Database	EPD Owner, Supplier, Ecoinvent v3.11	2025	Primary data	19%
Transport, freight, sea, container ship, heavy fuel oil {GLO}| transport, freight, sea, container ship, heavy fuel oil | Cut-off, U	Collected data, Database	EPD Owner, Supplier, Ecoinvent v3.11	2025	Primary data	11%
Electricity	Collected data, Database	EPD Owner, Supplier, Ecoinvent v3.11	2025	Primary data	2,2%
Transport	Collected data, Database	EPD Owner, Supplier, Ecoinvent v3.11	2025	Primary data	3,5%
Other processes	Collected data, Database	EPD Owner, Supplier, Ecoinvent v3.11	2025	Representative secondary data	0%
Total share of primary data, of GWP-GHG results for A1-A3					**36%**

The share of primary data is calculated based on GWP-GHG results. It is a simplified indicator for data quality that supports the use of more primary data, to increase the representativeness of and comparability between EPDs. Note that the indicator does not capture all relevant aspects of data quality and is not comparable across product categories.

ENVIRONMENTAL PERFORMANCE

LCA results of the product – main environmental performance results

Mandatory impact category indicators according to EN 15804

Results per 1 kg polystyrene moulding

Indicator	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	**1,9E+00**	8,7E-02	7,3E-02	0,0E+00	4,0E-04	2,4E-02	2,1E+00	5,1E-04	6,7E-01
GWP-fossil	kg CO_2 eq.	**2,0E+00**	8,4E-02	1,4E-02	0,0E+00	4,0E-04	2,4E-02	2,1E+00	1,5E-04	7,4E-01
GWP-biogenic	kg CO_2 eq.	**-8,3E-02**	6,2E-05	5,9E-02	0,0E+00	4,4E-08	5,0E-06	3,2E-02	3,6E-04	-6,1E-02
GWP-luluc	kg CO_2 eq.	**4,6E-03**	2,7E-03	4,0E-07	0,0E+00	4,1E-08	7,8E-06	1,6E-05	2,8E-08	-8,6E-03
ODP	kg CFC 11 eq.	**1,9E-08**	2,9E-09	2,7E-11	0,0E+00	5,9E-12	5,2E-10	6,2E-10	5,4E-12	5,5E-08
AP	mol H^+ eq.	**1,6E-02**	1,9E-03	9,3E-06	0,0E+00	3,6E-06	7,6E-05	4,6E-04	1,0E-06	1,3E-04
EP-freshwater	kg P eq.	**6,2E-05**	1,0E-05	1,3E-08	0,0E+00	1,4E-09	1,7E-07	4,7E-07	8,7E-10	-8,4E-07
EP-marine	kg N eq.	**4,5E-03**	1,4E-03	4,1E-06	0,0E+00	1,7E-06	2,5E-05	2,2E-04	4,3E-07	-6,3E-05
EP-terrestrial	mol N eq.	**4,4E-02**	8,8E-03	4,3E-05	0,0E+00	1,8E-05	2,8E-04	2,3E-03	4,7E-06	-2,4E-03
POCP	kg NMVOC eq.	**1,2E-02**	1,2E-03	1,3E-05	0,0E+00	5,4E-06	1,2E-04	5,7E-04	1,8E-06	4,5E-03
ADP-minerals&metals*	kg Sb eq.	**6,0E-06**	6,3E-07	3,9E-09	0,0E+00	1,4E-10	8,0E-08	8,5E-08	1,9E-10	3,2E-06
ADP-fossil*	MJ	**2,5E+01**	1,0E+00	1,7E-02	0,0E+00	5,2E-03	3,4E-01	3,4E-01	4,0E-03	2,7E+01
WDP*	m^3	**3,3E-01**	2,6E-02	1,5E-04	0,0E+00	1,1E-05	1,3E-03	9,4E-03	1,4E-05	5,3E-01
Acronyms	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									

Disclaimer: The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3). Negative values in Module D represent potential net benefits from material recycling and energy recovery beyond the system boundary.
Note: Biogenic carbon in packaging is balanced in A1–A3.

** Disclaimer: 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.*

Additional mandatory and voluntary impact category indicators

Results per 1 kg polystyrene moulding

Indicator	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP-GHG [2]	kg CO_2 eq.	**2,0E+00**	8,7E-02	1,4E-02	0,0E+00	4,0E-04	2,4E-02	2,1E+00	1,5E-04	6,7E-01
PM	disease inc.	**1,1E-07**	1,8E-08	1,3E-10	0,0E+00	1,0E-10	1,9E-09	2,2E-09	2,6E-11	-4,0E-08
IR [3]	kBq U-235 eq	**5,4E-02**	1,2E-03	1,0E-05	0,0E+00	8,6E-07	1,5E-04	7,7E-04	1,5E-06	-3,8E-01
ETP – FW*	CTUe	**6,3E+00**	6,2E-01	3,9E-02	0,0E+00	2,8E-04	4,5E-02	4,5E+00	2,1E-04	-4,2E-01
HTP – C*	CTUh	**5,2E-10**	6,1E-11	1,4E-12	0,0E+00	4,1E-14	4,0E-12	1,2E-10	1,9E-14	-3,8E-10
HTP – NC*	CTUh	**1,7E-08**	5,0E-09	6,6E-11	0,0E+00	6,4E-13	2,1E-10	4,8E-09	5,5E-13	-2,6E-09
Land use, SQP*	Pt	**2,0E+01**	6,9E+00	8,6E-03	0,0E+00	3,4E-04	2,0E-01	7,9E-02	8,2E-03	-2,1E+01
Acronyms	GWP-GHG: Global Warming Potential, Greenhouse Gases, PM: Particulate Matter, IRP: Ionizing Radiation - Human Health, ETP-FW: Ecotoxicity Potential – Freshwater, HTP-C: Human Toxicity Potential – Cancer, HTP-NC: Human Toxicity Potential – Non-Cancer, SQP: Soil Quality Potential Index									

Additional voluntary indicators e.g. the voluntary indicators from EN 15804 or the global indicators according to ISO 21930:2017

Disclaimer: The results of the impact categories land use, human toxicity (cancer), human toxicity, non-cancer and ecotoxicity (freshwater) may be highly uncertain in LCAs that include capital goods/infrastructure in generic datasets, in case infrastructure/capital goods contribute greatly to the total results. This is because the LCI data of infrastructure/capital goods used to quantify these indicators in currently available generic datasets sometimes lack temporal, technological and geographical representativeness. Caution should be exercised when using the results of these indicators for decision-making purposes. Negative values in Module D represent potential net benefits from material recycling and energy recovery beyond the system boundary.

** Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

[2] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.
[3] 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 indicators

Results per 1 kg polystyrene moulding										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
PERE	MJ	**4,6E+00**	1,3E+00	4,2E-04	0,0E+00	3,3E-05	5,5E-03	2,5E-02	8,1E-05	0,0E+00
PERM	MJ	**1,2E+00**	0,0E+00	-5,6E-01	0,0E+00	0,0E+00	0,0E+00	-5,7E-01	0,0E+00	0,0E+00
PERT	MJ	**5,8E+00**	1,3E+00	-5,6E-01	0,0E+00	3,3E-05	5,5E-03	-5,5E-01	8,1E-05	0,0E+00
PENRE	MJ	**2,5E+01**	1,1E+00	1,9E-02	0,0E+00	5,5E-03	3,6E-01	3,7E-01	4,3E-03	0,0E+00
PENRM	MJ	**3,1E+01**	0,0E+00	-1,6E-01	0,0E+00	0,0E+00	0,0E+00	-3,0E+01	0,0E+00	0,0E+00
PENRT	MJ	**5,5E+01**	1,1E+00	-1,4E-01	0,0E+00	5,5E-03	3,6E-01	-3,0E+01	4,3E-03	0,0E+00
SM	kg	**9,5E-01**	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
RSF	MJ	**0,0E+00**	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
NRSF	MJ	**0,0E+00**	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
FW	m^3	**1,5E-02**	4,8E-03	3,4E-05	0,0E+00	3,8E-07	5,0E-05	3,5E-03	4,3E-06	-9,3E-04
Acronyms	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 re-sources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water									

Disclaimer: Negative values in Module D represent potential net benefits from material recycling and energy recovery beyond the system boundary.

Waste indicators

Results per 1 kg polystyrene moulding										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Hazardous waste disposed	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Non-hazardous waste disposed	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Radioactive waste disposed	kg	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00

Output flow indicators

Results per 1 kg polystyrene moulding										
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1-B7**	**C1**	**C2**	**C3**	**C4**	**D**
Components for re-use	kg	**0,0E+00**	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Material for recycling	kg	**1,5E-02**	0,0E+00	2,2E-02	0,0E+00	0,0E+00	0,0E+00	7,8E-02	0,0E+00	0,0E+00
Materials for energy recovery	kg	**0,0E+00**	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00	0,0E+00
Exported energy, electricity	MJ	**7,4E-02**	0,0E+00	1,0E-01	0,0E+00	0,0E+00	0,0E+00	6,7E+00	0,0E+00	0,0E+00
Exported energy, thermal	MJ	**1,7E-01**	0,0E+00	2,3E-01	0,0E+00	0,0E+00	0,0E+00	1,6E+01	0,0E+00	0,0E+00

Additional LCA results (other environmental performance results) of the product(s)

The deviation of the GWP-GHG value for A1-A3 relative the representative product for the different products included in this EPD can be seen in the table below.

Product	Difference relative to representative product
Post-consumer recycled polystyrene moulding with paper surface (representative product)	0%
Post-consumer recycled polystyrene moulding with hot foil transfer surface	+7%

The variation of the environmental impact indicators which differ more than 10% between any of the included products are declared below. The result for the indicator “Climate change – Biogenic” should be interpreted with caution, as this indicator includes both negative (carbon storage) and positive values (emissions). Variation is calculated as the maximum deviation between any of the included products, using absolute values.

The observed variation is due to the difference in surface between paper and hot foil transfer, with the hot foil transfer use of paint and PET driving the two high variations of the indicators Climate change - Land use and LU change and Ozone depletion.

Indicator	Variation between products (%)
Climate change - Land use and LU change	374%
Ozone depletion	716%
Resource use, minerals and metals	106%
Water use	11%
Freshwater, ecotoxicity	43%

100% Recycling Scenario for modules A5, C1-C4 & D

Mandatory impact category indicators according to EN 15804, per 1 kg polystyrene moulding

Indicator	Unit	A5	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	6,0E-02	4,0E-04	1,5E-02	3,3E-02	0,0E+00	-5,2E-02
GWP-fossil	kg CO_2 eq.	7,4E-04	4,0E-04	1,5E-02	1,0E-03	0,0E+00	-5,3E-02
GWP-biogenic	kg CO_2 eq.	5,9E-02	0,0E+00	0,0E+00	3,2E-02	0,0E+00	0,0E+00
GWP-luluc	kg CO_2 eq.	2,2E-07	4,1E-08	5,0E-06	8,0E-06	0,0E+00	7,8E-04
ODP	kg CFC 11 eq.	1,6E-11	5,9E-12	3,3E-10	1,6E-11	0,0E+00	-4,5E-09
AP	mol H^+ eq.	2,9E-06	3,6E-06	4,9E-05	8,8E-06	0,0E+00	-6,6E-05
EP-freshwater	kg P eq.	5,1E-09	1,4E-09	1,1E-07	5,7E-09	0,0E+00	2,1E-06
EP-marine	kg N eq.	1,1E-06	1,7E-06	1,6E-05	4,0E-06	0,0E+00	5,3E-05
EP-terrestrial	mol N eq.	1,2E-05	1,8E-05	1,8E-04	4,4E-05	0,0E+00	-1,6E-04
POCP	kg NMVOC eq.	4,4E-06	5,4E-06	7,4E-05	1,3E-05	0,0E+00	-4,5E-04
ADP-minerals&metals*	kg Sb eq.	2,2E-09	1,4E-10	5,1E-08	1,6E-09	0,0E+00	-2,1E-07
ADP-fossil*	MJ	1,0E-02	5,2E-03	2,2E-01	2,2E-02	0,0E+00	-2,8E+00
WDP*	m^3	3,8E-05	1,1E-05	8,4E-04	1,6E-04	0,0E+00	-5,0E-02
GWP-GHG [4]	kg CO_2 eq.	7,4E-04	4,0E-04	1,5E-02	1,0E-03	0,0E+00	-4,1E-02
Acronyms	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, GWP-GHG: Global Warming Potential for Greenhouse Gases						

Disclaimer: The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3). Negative values in Module D represent potential net benefits from material recycling and energy recovery beyond the system boundary.
Note: Biogenic carbon in packaging is balanced in A1–A3.

** Disclaimer: 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.*

[4] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

100% Incineration Scenario for modules A5, C1-C4 & D

Mandatory impact category indicators according to EN 15804, per 1 kg polystyrene moulding

Indicator	Unit	A5	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	7,5E-02	4,0E-04	2,5E-02	2,4E+00	0,0E+00	7,7E-01
GWP-fossil	kg CO_2 eq.	1,6E-02	4,0E-04	2,5E-02	2,3E+00	0,0E+00	7,8E-01
GWP-biogenic	kg CO_2 eq.	5,9E-02	0,0E+00	0,0E+00	3,2E-02	0,0E+00	0,0E+00
GWP-luluc	kg CO_2 eq.	5,6E-07	4,1E-08	8,2E-06	1,7E-05	0,0E+00	-1,0E-02
ODP	kg CFC 11 eq.	3,8E-11	5,9E-12	5,4E-10	6,9E-10	0,0E+00	5,9E-08
AP	mol H^+ eq.	1,5E-05	3,6E-06	7,9E-05	5,1E-04	0,0E+00	5,5E-05
EP-freshwater	kg P eq.	2,1E-08	1,4E-09	1,8E-07	5,2E-07	0,0E+00	-2,5E-06
EP-marine	kg N eq.	6,6E-06	1,7E-06	2,6E-05	2,5E-04	0,0E+00	-1,2E-04
EP-terrestrial	mol N eq.	6,9E-05	1,8E-05	2,9E-04	2,6E-03	0,0E+00	-2,9E-03
POCP	kg NMVOC eq.	1,9E-05	5,4E-06	1,2E-04	6,4E-04	0,0E+00	4,8E-03
ADP-minerals&metals*	kg Sb eq.	5,6E-09	1,4E-10	8,3E-08	9,4E-08	0,0E+00	3,3E-06
ADP-fossil*	MJ	2,4E-02	5,2E-03	3,5E-01	3,7E-01	0,0E+00	2,8E+01
WDP*	m^3	2,6E-04	1,1E-05	1,4E-03	1,0E-02	0,0E+00	5,7E-01
GWP-GHG [5]	kg CO_2 eq.	1,6E-02	4,0E-04	2,5E-02	2,3E+00	0,0E+00	7,0E-01
Acronyms	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, GWP-GHG: Global Warming Potential for Greenhouse Gases						

Disclaimer: The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3). Negative values in Module D represent potential net benefits from material recycling and energy recovery beyond the system boundary.
Note: Biogenic carbon in packaging is balanced in A1–A3.

** Disclaimer: 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.*

[5] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

100% Landfill Scenario for modules A5, C1-C4 & D

Mandatory impact category indicators according to EN 15804, per 1 kg polystyrene moulding

Indicator	Unit	A5	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	6,0E-02	4,0E-04	1,5E-02	1,0E-03	3,8E-02	9,4E-01
GWP-fossil	kg CO_2 eq.	1,1E-03	4,0E-04	1,5E-02	1,0E-03	6,1E-03	9,4E-01
GWP-biogenic	kg CO_2 eq.	5,9E-02	0,0E+00	0,0E+00	0,0E+00	3,2E-02	0,0E+00
GWP-luluc	kg CO_2 eq.	2,9E-07	4,1E-08	5,0E-06	8,0E-06	1,1E-06	1,3E-04
ODP	kg CFC 11 eq.	2,6E-11	5,9E-12	3,3E-10	1,6E-11	2,1E-10	7,0E-08
AP	mol H^+ eq.	5,2E-06	3,6E-06	4,9E-05	8,8E-06	4,2E-05	1,6E-03
EP-freshwater	kg P eq.	7,5E-09	1,4E-09	1,1E-07	5,7E-09	3,4E-08	5,6E-06
EP-marine	kg N eq.	2,3E-06	1,7E-06	1,6E-05	4,0E-06	1,8E-05	2,9E-04
EP-terrestrial	mol N eq.	2,2E-05	1,8E-05	1,8E-04	4,4E-05	2,0E-04	3,0E-03
POCP	kg NMVOC eq.	8,5E-06	5,4E-06	7,4E-05	1,3E-05	7,2E-05	6,0E-03
ADP-minerals&metals*	kg Sb eq.	2,7E-09	1,4E-10	5,1E-08	1,6E-09	7,1E-09	4,6E-06
ADP-fossil*	MJ	1,8E-02	5,2E-03	2,2E-01	2,2E-02	1,5E-01	4,2E+01
WDP*	m^3	-3,2E-05	1,1E-05	8,4E-04	1,6E-04	5,2E-04	7,4E-01
GWP-GHG [6]	kg CO_2 eq.	2,1E-03	4,0E-04	1,5E-02	1,0E-03	6,1E-03	8,8E-01
Acronyms	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, GWP-GHG: Global Warming Potential for Greenhouse Gases						

Disclaimer: The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks. The results of the end-of-life stage (modules C1-C4) should be considered when using the results of the product stage (modules A1-A3). Negative values in Module D represent potential net benefits from material recycling and energy recovery beyond the system boundary.
Note: Biogenic carbon in packaging is balanced in A1–A3.

** Disclaimer: 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.*

[6] This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

ABBREVIATIONS

Abbreviation	Definition
General Abbreviations	
EN	European Norm (Standard)
EPD	Environmental Product Declaration
EF	Environmental Footprint
GPI	General Programme Instructions
ISO	International Organization for Standardization
LCA	Life Cycle Assessment
PCR	Product Category Rules
c-PCR	Complementary Product Category Rules
CEN	European Committee for Standardization
CPC	Central product classification
GHG	Greenhouse Gas
PEF	Product Environmental Footprint
Environmental Impact Indicators (EN 15804)	
GHG	Greenhouse Gas
GWP	Global Warming Potential (kg CO_2 eq.)
GWP-fossil	Global Warming Potential from fossil sources (kg CO_2 eq.)
GWP-biogenic	Global Warming Potential from biogenic sources (kg CO_2 eq.)
GWP-luluc	Global Warming Potential from land use and land use change (kg CO_2 eq.)
GWP-total	Total Global Warming Potential (kg CO_2 eq.)
GWP-GHG	Global Warming Potential for greenhouse gases (kg CO_2 eq.)
ODP	Ozone Depletion Potential (kg CFC-11 eq.)
AP	Acidification Potential (mol H^+ eq.)
EP	Eutrophication Potential
EP-freshwater	Freshwater eutrophication potential (kg P eq.)
EP-marine	Marine eutrophication potential (kg N eq.)
EP-terrestrial	Terrestrial eutrophication potential (mol N eq.)
POCP	Photochemical Ozone Creation Potential (kg NMVOC eq.)
ADP	Abiotic Depletion Potential
ADP-minerals&metals	Abiotic depletion potential for non-fossil resources (kg Sb eq.)
ADP-fossil	Abiotic depletion potential for fossil resources (MJ)
WDP	Water Deprivation Potential (m^3)
Resource Use Indicators	
PERE	Renewable primary energy (excluding as raw materials) (MJ)
PERM	Renewable primary energy used as raw materials (MJ)
PERT	Total renewable primary energy (MJ)
PENRE	Non-renewable primary energy (excluding as raw materials) (MJ)
PENRM	Non-renewable primary energy used as raw materials (MJ)
PENRT	Total non-renewable primary energy (MJ)
SM	Use of secondary material (kg)
RSF	Use of renewable secondary fuels (MJ)
NRSF	Use of non-renewable secondary fuels (MJ)
FW	Use of net fresh water (m^3)
HW	Hazardous Waste (disposed) (kg)
NHW	Non-Hazardous Waste (disposed) (kg)
RW	Radioactive Waste (disposed) (kg)
Output Flow Indicators	
CFR	Components for Reuse (kg)
MR	Material for Recycling (kg)
MER	Materials for Energy Recovery (kg)
EEE	Exported Energy, Electricity (MJ)
EET	Exported Energy, Thermal (MJ)

Lifecycle Stages / Modules	
A1	Raw material supply
A2	Transport
A3	Manufacturing
A4	Transport to site
A5	Construction/Installation
B1	Use
B2	Maintenance
B3	Repair
B4	Replacement
B5	Refurbishment
B6	Operational energy use
B7	Operational water use
C1	Deconstruction/Demolition
C2	Transport to waste processing
C3	Waste processing
C4	Disposal
D	Reuse-Recovery-Recycling potential
Other Relevant Terms	
SVHC	Substances of Very High Concern
EC No.	European Community Number
CAS No.	Chemical Abstracts Service Number
MJ	Megajoule
kg	Kilogram
m^3	Cubic Meter
NMVOC	Non-Methane Volatile Organic Compounds
Sb eq.	Antimony Equivalents
P eq.	Phosphorus Equivalents
N eq.	Nitrogen Equivalents
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents
CO_2 eq.	Carbon Dioxide Equivalents
kg C	Kilograms of Carbon
kg CO_2 eq.	Kilograms of Carbon Dioxide Equivalent
ND	Not Declared
PS	Polystyrene
PCR PS	Post-consumer recycled polystyrene
HDPS	High Density Polystyrene
GLO	Global
CN	China
NO	Norway

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VERSION HISTORY

Original Version of the EPD, 2026-06-08

EPD
INTERNATIONAL EPD SYSTEM
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