Environmental Product Declaration

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

Woven boucle carpets with Terazzo as the reference product



Kasthall

Programme	The International EPD System, www.environdec.com
Programme operator	EPD International AB
Type of EPD	EPD of multiple products from a company
EPD registration number	EPD-IES-0034830:001
Version date	2026-10-12
Validity date	2031-10-11

An EPD should provide current information and may be updated or unpublished if conditions change.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
E-mail	support@environdec.com

PCR and verification

Product Category Rules (PCR)	CEN standard EN 15804 serves as the Core Product Category Rules (PCR) o PCR 2019:14-c-PCR-004 - Resilient, textile and laminate floor coverings (EN 16810) (1.0.0), 2025-04-08 o Product Category Rules, PCR 2019:14 Construction products and construction services, version 2.0.1. PCR review was conducted by the Technical Committee of the International EPD System. See https://environdec.com/about-us/the-international-epd-system-about-the-system for a list of members. Review chair: Rob Rouwette (chair), Noa Meron (co chair). The review panel may be contacted via the Secretariat www.environdec.com/contact.
Third-party verification:	External and independent "third-party" verification of the declaration and data, according to ISO14025:2006, via EPD verification through: ☑ Individual EPD verification without a pre-verified LCA/EPD tool Third-party verifier: Callum Hill, CEO , JCH Industrial Ecology Ltd Approved by: The International EPD System
Procedure for follow-up of data during EPD validity involves third party verifier: ○ Yes ● No	

Ownership and limitations on use of EPD

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.

Information about EPD owner

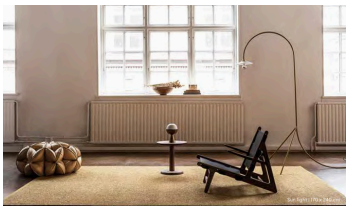
Owner details	
EPD owner	Kasthall
Contact	Joakim Carlsson , Cheif Operating Officer
Contact details	joakim.carlsson@kasthall.com
Address	Fritslavägen 41, 51157 Kinna
Description of the organisation	Founded in 1889 in Kinna, Sweden, Kasthall is internationally recognized rugs and carpet manufacturer known for combining industrial craftsmanship with contemporary design. Every rug is produced in the company's historic mill in Kinna, where weaving, tufting, yarn development and finishing take place under one roof. Through a balance of artisanal expertise, material innovation and architectural design thinking, Kasthall creates rugs and textile flooring for residential, hospitality and public spaces worldwide. Collaborations with leading architects and designers, together with a strong focus on quality, tactility and longevity, have positioned Kasthall as a premium Scandinavian design brand with a global presence.
Product-related or management system-related certifications:	
Life Cycle Assessment (LCA)	Joakim Carlsson

Product Information

Product details	
Product name(s)	Terrazzo and Esther with Terazzo as the reference product
Product description:	Esther and Terrazzo are woven bouclé rugs designed for use both as area rugs and wall-to-wall carpeting. Inspired by the textures and materials of nature from the close-cropped fleece of sheep to the shifting surfaces of stone and minerals they combine tactile richness with refined material expression. The bouclé yarn, developed and manufactured at Kasthall's factory in Sweden, creates surfaces with soft texture, subtle lustre and a vibrant sense of depth. The combination of wool and linnen in the bouclé yarn gives the rugs a naturally nuanced and marbled character with enduring material integrity and durability. Through advanced weaving techniques and carefully composed color palettes, Esther and Terrazzo become versatile rugs that harmoniously complement a wide range of interiors and environments. In this resport the Terazzo product have been chosen as the reference product due to being the most popular product in the segment. The carpets have been grouped as they both make use of the same boucle yearn.
UN CPC code	27220
Name and location of production site(s):	Kasthall HQ Fritslavägen 42, 511 57 Kinna, Sweden
Technical or actual lifespan	50

Property	Specified Performance	Technical Details
Esther: total weight: 3000 gram /m2	Warp material: 100% linnen	Weft material: 65% wool and 35% linnen
Esther product type: woven bouclé rug in wool and linnen		Total thickness: approx 10 mm
Terrazzo: total weight 3000 gram	Warp material: 100% linnen	Weft material: 77% wool and 23% linnen
Product type: Woven boucle rug in pure wool and linnen	Total thickness: 10 mm	

Product image



Manufacturing process

The production of woven rugs at Kasthall begins with the preparation of yarns, which are primarily made from natural materials such as wool or a blend of wool and linen. The yarn is dyed in external dyeing processes and upon arrival the yarn is prepared and wound onto spools and prepared for the weaving looms.

The weaving process is carried out on flatbed looms where the warp and weft yarns are interlaced according to the desired design and pattern. The rugs are woven to their final dimensions, minimizing material waste. After weaving, the rugs undergo inspection, trimming, and edge-finishing by hand to ensure high quality standards. Optional processes such as backing or additional treatments may be applied depending on the product specification.

Product Table

Product Name	Mass in kg	Unit
Terazzo	2,710	m^2
Esther	3,040	m^2

Content declaration

Product Components	Mass, kg	Post-consumer recycled material, mass-% of products	Biogenic material, mass-% of product	Biogenic material, kg C / declared unit
Natural Textiles	8,70E-01	0,00%	14,54%	3,94E-01
Fibers	1,82E+00	0,00%	30,99%	8,40E-01
Chemicals	1,84E-02	0,00%	0,00%	0,00E+00
Total	2,71E+00	0,00%	45,54%	1,23E+00

Packaging Materials	Mass, kg	Mass-% (versus the product)	Biogenic material kg C/declared unit
Plastic	7,00E-02	2,58%	0,00E+00
Paper	2,40E-01	8,86%	9,60E-02
Total	3,10E-01	11,44%	9,60E-02

Note: Some totals may not correspond exactly to the sum of separate figures due to rounding.

Dangerous substances from the candidate list of SVHC for Authorisation	EC No.	CAS No.	Weight-% per functional or declared unit
No hazardous materials			

At the date of issue of this declaration, there is no “Substance of Very High Concern” (SVHC) in concentration above 0.1% by weight, and neither does the packaging, following the European REACH regulation (Registration, Evaluation, Authorization and Restriction of Chemicals)

LCA information

Field	Value
Functional Unit / Declared Unit	m2
Conversion Factor to Mass	0,33 (1 divided by the weight per m2)
Time Representativeness	Data obtained refers to the years 2024-2025
Geographical Scope	Europe and Sweden
System Boundary	Cradle to grave and module D (A + B + C + D). A1-A3, A4, A5, B1, B2, B3, B4, B5, B6, B7, C1, C2, C3, C4, D
Excluded Modules	No modules excluded
Database(s) and LCA Software Used	Ecoinvent 3.11 and EandoX version 1.01
Reference Service Life (RSL)	The service lifetime of a floor covering varies widely depending on its application, so a single universal value cannot be assigned. For this EPD model, the reference service lifetime (RSL) is set to one year, in accordance with PCR EN 16810:2017. This means that all impacts for the use phase are based on a cleaning and maintenance model for one year. The total environmental impact should then be calculated by scaling the use phase impacts to the actual service life. Kasthall estimates that a typical lifetime of a tufted floor covering is 50 years.
Characterisation Factors Used	The characterization factors used in this study refer to PCR 2019:14 and EN 15804+A2 (based on EF 3.1).
Allocation Procedures Used	The woven floor coverings are produced at the production site at Kinna, Sweden, which has provided specific data on energy and material use to produce the floor coverings. Material inputs for floor coverings are taken from the product recipe. Allocation on energy, auxiliaires, and waste at Kasthall's manufacturing site has been performed based on production volumes in square meters (m2). Inventory for the upstream production of wool fibres used by Kasthall's wool yarn suppliers are based on economic allocation of wool. In the upstream production of wool fiber, the cleaning (scouring) of sheep fleece in the grease produces several co-products. This study focuses on the portion of the wool co-products processed into long fine fibers.

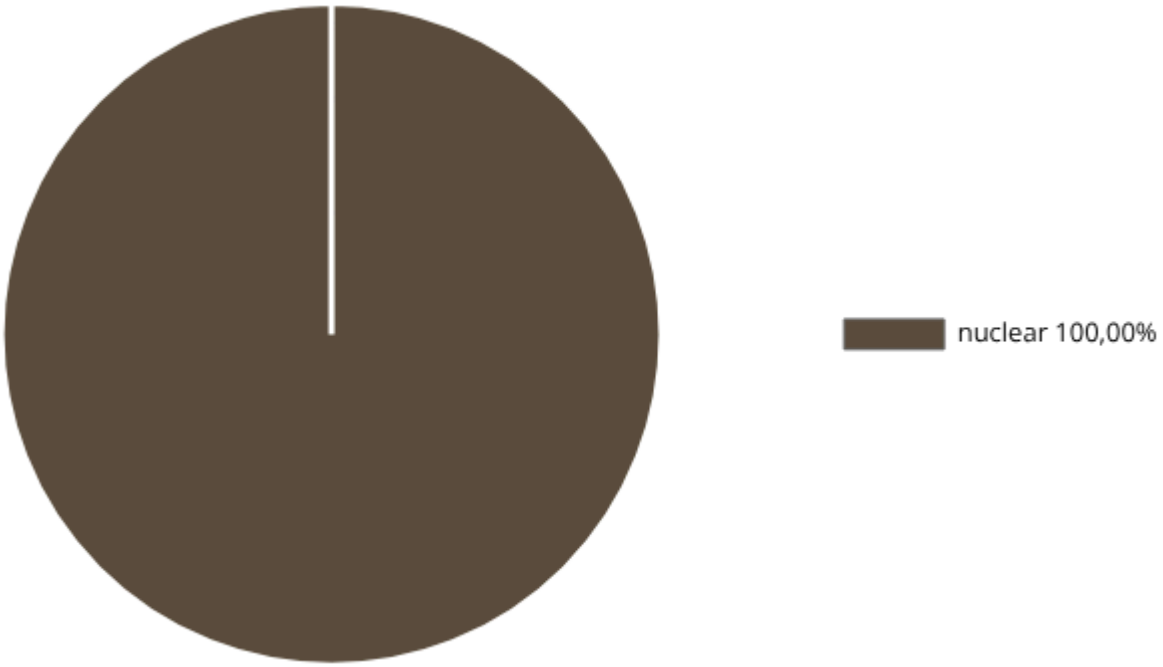
Field	Value
Cut-off criteria	The general rules for exclusion of inputs and outputs in the LCA follows the rules of in EN 15804:2012+A2:2019, section 6.3.6, where the cut-off criterion is 1% of renewable and non-renewable primary energy usage and 1% of the total mass input of that unit process. The total of neglected input flows per module shall be maximum of 5% of energy usage and mass. The excluded processes and the fulfilment of the cut-off criteria are addressed in the following section. In addition to the processes explicitly excluded from the system boundary by EN 15804 and PCR 2019:14, the following exclusions have been made based on the cut-off criteria: • Production and waste management of some of the incoming packaging materials used for incoming raw materials to Kasthall. This is assessed to fall well under the cut-off rules. Packaging material for the incoming linen and wool yarn are included. • Collected post-consumer wool, which is used as input for recycled wool fibres in wool yarn production, is sorted, including the removal of accessories. No data on the amount of accessories removed from the post-consumer wool was found in the inventory, so the transport and waste treatment associated with the accessories has been omitted from the modeling. This omission is judged to have a negligible environmental impact and be well in line with the cut-off criteria. • Due to a lack of specific data, it is assumed that no wool fibre spillage occurs during wool yarn production at Kasthall's wool yarn suppliers. However, spillage is accounted for in upstream processes of primary wool fibre production, specifically for washing/scouring, carding, and first combing. • Due to a lack of specific data, the use of auxiliaries (other than energy and water) in wool and linen yarn production at Kasthall's yarn suppliers has been excluded.

Energy Breakdown

Electricity used in the manufacturing

Energy Source	Data Source	Year	Geography	GWP excl. biogenic [kg CO2-eq/kWh]
Electricity from Nuclear	Ecoinvent 3.11	2024	SE	7,02E-03

Breakdown of electricity usage



A1	A2	A3	A4	A5	B1-7	C1-4
Extraction and processing of raw materials	Transport of raw materials	Manufact-uring	Transport to end user	Installation on site	User	End of life
		Waste		Waste		Waste

D Benefits and loads beyond the system boundary

A1	Raw material supply	Module A1, a combination of generic data from Ecoinvent version 3.11, primary data from Kasthall's suppliers, and literature inventories is used. Specifically, literature inventories are used for the production of virgin and post-consumer wool fibres, which serve as inputs for wool yarn production by Kasthall's suppliers. For sheep fleece in the grease, used in the production of virgin wool fibres, the generic Ecoinvent dataset "Sheep fleece in the grease, RoW" is utilized.
A2	Transport to the manufacturer	Module A2 covers the impacts from transporting raw materials to the Kasthall production site. This includes the extraction and production of fuels as well as fuel combustion during transportation.
A3	Manufacturing	Module A3 includes the manufacturing of the final floor coverings, the production of outgoing packaging, and the end-of-life treatment of waste generated during manufacturing. It also accounts for the inflow of auxiliaries .
A4	Transport	Module A4 covers the impacts from transporting the finished product to an assumed installation site. Kasthall supplies rugs to many countries, but this EPD considers the Swedish market for the use phase. The total distance in A4 is modeled as the distance from the manufacturing site in Kinna to a customer in Sweden, with 500 km estimated as the average transport distance. truck: 500km truck: 500km
A5	Construction installation	Module A5 represents the installation of the product at the installation site. Since no installation process is required for the rugs, the impacts in A5 arise only from the waste treatment of the product packaging. The packaging waste is classified as material for waste for incineration. Impacts from the transport to the incineration facility and impacts from the incineration process are included in Module A5, while potential loads and benefits are reported in Module D. These outflow benefits from Module A5 are recorded in the result tables as "exported electrical energy" (EEE) for exported electricity, "exported thermal energy" (EET) for exported heat.

B1-B7	Use stage	The use stage includes modules B1-B5, which are information modules related to the building fabric, and modules B6-B7, which are information modules related to the operation of the building. Only module B2, cleaning and maintenance, applies to floor covering in line with EN 16810:2017. Floor coverings are neither repaired, replaced or refurbished (other at the end of life). Therefore, module B1, B3, B5, B6, and B7 are set to zero. Module B2 includes the provision and transport of cleaning materials, the associated energy and water usage, and the wastewater processing required to reach the end-of-waste state during the use phase. The cleaning and maintenance processes considered in Module B2 are vacuum cleaning and wet cleaning consisting of manual stain removal. Kasthall provided the inventory data for vacuum cleaning, while the inventory for wet cleaning is an average derived from four rug EPDs and is considered representative.
C1	Deconstruction/Demolition	Module C1 covers the removal of the floor covering from the building. As this removal is performed manually, it is not expected to require any processes that have an environmental impact.
C2	Transport	Module C2 comprises the impacts from transporting the discarded floor covering to a recovery site. The distance to the recovery site is assumed to be 130 km, following the default values in PCR 2014:14, Section 4.8.4. The transportation is performed using a diesel-driven truck.
C3	Waste processing	This stage includes any waste pre-treatment.
C4	Final disposal	Module C4 consists of waste disposal and management of the disposal site. As the energy efficiency of the incineration is assumed to be <60%, all impacts from incineration are reported in module C4. 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).

D	Benefits	In general, module D encompasses the potential for reuse, recovery, and recycling, expressed as net impacts and benefits. In this study, the following material and energy flows (heat and electricity) enter module D from different modules: • Energy flows from the incineration of packaging in module A5 (which includes 100% of the polyethylene film and 5% of the paper roll and carton tubes from the product packaging). • Materials for recycling flows sent to recycling in module A5 (which includes 95% of the paper roll and carton tubes from the product packaging) • The full reuse potential (100%) arising from the end-of-life scenario of the rugs (indicated separately in the LCIA result tables). Benefits from energy flows comes from the incineration of the products packaging material in module A5. 100% of the packaging polyethylene film is incinerated with energy recovery, and 5% of the packaging paper and carton tubes are incinerated with energy recovery.The produced energy (heat and electricity) is recovered and assumed to replace the heat and electricity that would otherwise have been produced from other sources. Benefits and loads from the recycling process reported in module D arise from the paper rolls and carton tubes from the product packaging that are sent to recycling from module A5. 95% of the paper rolls and carton tubes are assumed to the recycled. The recycled paper rolls and carton tubes are assumed to substitute virgin pulp. The credits from the avoided production of virgin pulp are calculated by considering paper grades like those used in corrugated board production. Benefits and loads for the reuse flows reported in module D arise from the floor covering. Processing in the form of cleaning is considered to prepare the floor covering for the secondary (used) rug market. This cleaning consists of vacuuming and wet cleaning. The same inventory as for the cleaning in module B2 is considered, with the difference of only one vacuuming and wet cleaning cycle. The benefits from the floor covering arise from replacing primary rug production. Benefits are allocated economically based on the weighted average impacts of Kasthall's floor coverings, based on the price for each primary floor covering as well as an average price for all Kasthall's floor coverings on the secondary market in Sweden. To avoid double counting, the input of post-consumer wool fibres used in the wool yarn production is subtracted from the benefits of material recovery in module D.

System boundaries

	Product stage			Assembly stage		Use stage							End of life stage				Benefits & loads beyond system boundary
	Raw material supply	Transport to manufacturer	Manufacturing	Transport to building site	Installation into building	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Demolition	Transport to waste processing	Waste processing for reuse, recovery, recycling	Disposal	Reuse, recovery, recycling potential
	A1	**A2**	**A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
Declared	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Geography	EU	EU	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE	SE
Specific data used	2,64%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-Products	+2% / -0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation-Sites	+0% / -0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

X - declared, ND - Not Declared

The results presented for modules A1-A3 alone shall not be used for comparisons unless all relevant life cycle stages, particularly end-of-life (C1-C4), are included. This ensures a more accurate and representative environmental impact assessment over the full product life cycle.

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

Process	Source type	Source	Reference year	Data category	Share of primary data, of GWP-GHG results for A1-A3
Manufacturing of product	Collected data	Ecoinvent 3.11	2024	Primary data, secondary data	0,62%
Transportation of raw materials to manufacturing site	Collected data	Ecoinvent 3.11	2024	Secondary data	0,00%
Production of raw materials and components	Collected data	Ecoinvent 3.11	2024	Primary data, secondary data	2,02%
Production of packaging	Collected data	Ecoinvent 3.11, CarbonZero	2023-2024	Secondary data	0,00%
Total share of primary data, of GWP-GHG results A1-A3					2,64%

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.

A life cycle inventory has been performed in 2024 to 2025 and the primary data for manufacturing covers information for the year 2025 for the manufacturing site in Kinna, Sweden.

Generic data and background data are based on life cycle inventory (LCI) data from Ecoinvent version 3.11. Generally, the background datasets are of high quality, and all datasets are less than 5 years old.

The quality of the relevant data used for the EPD in terms of its time, geography and technology are representativeness mostly good and very good. For some auxiliaries used at Kasthall's manufacturing site, only fair and poor data in terms of technology was available, where proxy datasets were used. Examples include datasets for polyurethane adhesive and latex used as proxies for various adhesives. All auxiliaries account for 2% of the total GWP impact and 0-17% of other core impacts.

The main source of environmental impact comes from the supply chain of wool, in this LCA, the supply chain for wool is based on the study "Life Cycle Assessment (LCA) of Worsted and Woollen processing in wool production: ReviWool® noils and other wool co-products" for which the data quality evaluation is:

Geographical: Evaluated as overall good as the upstream value chain is based on Italian settings, and all associated datasets in the EPD is used for European or Sweden when relevant.

Temporal: Evaluated as overall very good as the used supply chain study is from 2023, data is collected in 2025 and the used datasets is from the second most recent version of ecoinvent (3.11)

Technical: Evaluated as overall good as the modelled supply chain is based on the most likely technology used, and the allocation used for wool is for the precise type of farms that Kasthall sources wool from (meat focused)

Transport to the building site (A4)

Vehicle type	Distance (km)	Capacity utilization* (%)	Bulk density of transported products (kg/m3)	Volume capacity utilisation factor**
Truck-Trailer 40 tonne	500	50,8%	as product density	1,00

*Including empty returns
**Factor =1 or <1 or >1 for compressed or nested packaged products

Installation of the product in the building (A5)

Scenario Information	Unit (expressed per functional unit or per declared unit)
Ancilliary materials for installation (specified by material)	None
Water use	None
Other resource use	None
Quantitative description of energy type (regional mix) and consumption during the installation process	Not applicable
Direct emissions at ambient air, soil and water	None

A5 Waste materials on the building site before waste processing, generated by the product's installation (specified by type)

Name	Type	Weight	Unit (expressed per functional unit or per declared unit)
Plastic	packaging	7,00E-02	kg
Paper	packaging	2,40E-01	kg

A5 Output materials

Name	Type	Route	Weight	Unit (expressed per functional unit or per declared unit)
Plastic	packaging	recycling waste	3,85E-02	kg
Plastic	packaging	incineration waste	3,15E-02	kg
Paper	packaging	incineration waste	2,40E-01	kg

End-of-life (C1-C4)

Scenario information	Unit (expressed per functional unit or per declared unit)
C1: Collection process specified by type	2,71E+00 kg demolition/deconstruction of steel, wood and other materials. Energy carrier: Diesel. Quantity: 1,1 kWh/tonne
C2: Waste transport specified by type	0,00E+00 kg materials not to be incinerated transported for 80 km 2,71E+00 kg materials to be incinerated transported for 130 km
C3: Recovery system specified by type	-
C4: Disposal specified by type	8,70E-01 kg Natural Textiles for energy recovery 1,82E+00 kg Fibers for energy recovery 1,80E-02 kg Chemicals for energy recovery
Assumptions for scenario development, e.g. transportation	The transportation is modelled with the same specifications as the truck transportation in module A4, except the transportation distance is assumed to be 80 km for materials not to be incinerated and 130 km for materials to be incinerated.

Reuse-Recovery-Recycling-potential (D)

Scenario information
The environmental loads and benefits recorded in Module D are based on the specific quantities of materials defined in the bill of materials. This accounting reflects the product's recovery potential at its end-of-life, where the recycling of materials is assumed to displace the future production of virgin materials, thereby reducing the long-term impact of raw material extraction. Additionally, the incineration of materials facilitate resource efficiency through heat recovery; the resulting exported electricity (EEE) and thermal energy (EET) serve as a credit by reducing the future demand for external energy sources.

Environmental performance

EPD INTERNATIONAL EPD SYSTEM

Potential environmental impact – indicators according to EN 15804+A2

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).

Results per declared unit: m2

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO2 eq	2,39E+01	2,58E-01	4,88E-01	0,00E+00	1,52E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,08E-03	6,71E-02	0,00E+00	6,39E+00	-9,74E-01
GWP-fossil	kg CO2 eq	1,20E+01	2,58E-01	1,36E-01	0,00E+00	1,33E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,08E-03	6,70E-02	0,00E+00	1,86E+00	-9,72E-01
GWP-biogenic	kg CO2 eq	9,40E+00	5,43E-05	3,52E-01	0,00E+00	2,79E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,20E-07	1,41E-05	0,00E+00	4,52E+00	-9,55E-04
GWP-luluc	kg CO2 eq	2,50E+00	8,54E-05	3,51E-05	0,00E+00	1,59E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,11E-07	2,22E-05	0,00E+00	3,68E-05	-1,20E-03
ODP	kg CFC11 eq	1,49E-07	5,62E-09	4,77E-10	0,00E+00	4,33E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,60E-11	1,46E-09	0,00E+00	3,44E-09	-1,06E-08
AP	mol H+ eq	7,13E-01	8,28E-04	1,71E-04	0,00E+00	7,94E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,65E-06	2,15E-04	0,00E+00	3,34E-03	-6,48E-03
EP-freshwater	kg P eq	7,73E-03	1,76E-05	1,25E-05	0,00E+00	5,25E-06	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,48E-08	4,58E-06	0,00E+00	1,30E-04	-5,79E-04
EP-marine	kg N eq	1,39E-01	2,81E-04	7,38E-05	0,00E+00	2,30E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,49E-06	7,30E-05	0,00E+00	2,84E-03	-9,20E-04
EP-terrestrial	mol N eq	3,13E+00	3,03E-03	5,98E-04	0,00E+00	2,28E-04	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,92E-05	7,88E-04	0,00E+00	1,68E-02	-9,20E-03
POCP	kg NMVOC eq	5,20E-02	1,26E-03	1,73E-04	0,00E+00	5,41E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,47E-05	3,26E-04	0,00E+00	4,08E-03	-2,87E-03
ADP-minerals & metals[1]	kg Sb-Eq	7,23E-05	8,69E-07	1,93E-07	0,00E+00	2,61E-07	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,97E-10	2,26E-07	0,00E+00	4,49E-07	-9,52E-07
ADP-fossil[1]	MJ	3,47E+02	3,67E+00	4,21E-01	0,00E+00	1,98E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,42E-02	9,53E-01	0,00E+00	1,83E+00	-1,47E+01
WDP[1]	m³	4,02E+01	1,96E-02	2,18E-02	0,00E+00	9,03E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	3,62E-05	5,10E-03	0,00E+00	2,09E-01	-2,65E-01
Acronyms	**GWP-total**: Total Global Warming Potential; **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															

[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 experience with the indicator.*

Use of resources

Option A has been selected in calculating the primary energy indicators. Under this option, the energy is recorded as an input in the module where it enters the product system (A1–A3) and as an equivalent output in the module where it exits the system (A5 for packaging content and C3 and/or C4 for product content), whether it is transferred to another product system or treated as waste.

Results per declared unit: m2

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	2,17E+02	1,41E+00	2,89E+00	0,00E+00	1,23E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,77E-05	3,68E-01	0,00E+00	1,15E+01	-2,76E+00
PERM	MJ	1,43E+01	0,00E+00	-2,78E+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	0,00E+00	-1,15E+01	0,00E+00
PERT	MJ	2,31E+02	1,41E+00	1,10E-01	0,00E+00	1,23E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,77E-05	3,68E-01	0,00E+00	0,00E+00	-2,76E+00
PENRE	MJ	3,41E+02	5,02E+00	3,55E+00	0,00E+00	1,98E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,42E-02	1,31E+00	0,00E+00	1,83E+00	-1,47E+01
PENRM	MJ	3,09E+00	0,00E+00	-3,09E+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	0,00E+00	0,00E+00	0,00E+00
PENRT	MJ	3,44E+02	5,02E+00	4,60E-01	0,00E+00	1,98E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,42E-02	1,31E+00	0,00E+00	1,83E+00	-1,47E+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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
RSF	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
NRSF	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
FW	m^3	9,52E-01	4,56E-04	3,27E-04	0,00E+00	2,20E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,93E-07	1,19E-04	0,00E+00	3,49E-03	-6,14E-03
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															

Additional mandatory and voluntary impact category indicators

Results per declared unit: m2

Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG	kg CO2 eq	3,04E+01	2,58E-01	1,36E-01	0,00E+00	1,52E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,08E-03	6,71E-02	0,00E+00	1,86E+00	-9,74E-01
PM	Disease incidence	5,98E-06	1,67E-08	1,37E-09	0,00E+00	1,26E-09	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,76E-10	4,34E-09	0,00E+00	1,31E-08	-5,56E-08
IRP[2]	kBq U235 eq.	1,38E+01	4,36E-03	7,07E-03	0,00E+00	1,43E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	5,99E-06	1,13E-03	0,00E+00	4,48E-03	-2,53E-01
ETP-fw[1]	CTUe	1,71E+02	4,80E-01	2,40E-01	0,00E+00	5,39E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	7,63E-04	1,25E-01	0,00E+00	4,47E+00	-1,67E+00
HTP-c[1]	CTUh	1,75E-08	4,65E-11	2,61E-11	0,00E+00	7,49E-12	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,10E-13	1,21E-11	0,00E+00	2,33E-10	-1,61E-10
HTP-nc[1]	CTUh	-1,63E-08	1,99E-09	1,00E-09	0,00E+00	3,52E-10	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,74E-12	5,16E-10	0,00E+00	5,67E-09	-6,50E-09
SQP[1]	Dimensionless	3,33E+03	2,16E+00	1,47E-01	0,00E+00	4,77E-01	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,33E-04	5,62E-01	0,00E+00	4,72E-01	-4,95E+00
Acronyms	**GWP-GHG**: global warming potential - greenhouse gases; **PM**: particulate matter; **IRP**: ionizing radiation potential; **ETP-fw**: ecotoxicity potential - freshwater; **HTP-c**: human toxicity potential - cancer; **HTP-nc**: human toxicity potential - non-cancer; **SQP**: smog formation potential															

The GWP-GHG indicator is identical to GWP-total except that the characterisation factor (CF) for biogenic CO2 is set to zero. This means that the uptake and emissions of biogenic CO2 are "balanced out already in modules A1 and A3, instead of in modules A5 (for packaging) or modules C3 and/or C4 (for the product). The results over the entire product life cycle, from module A to C, are thus identical for GWP-GHG and GWP-total unless some of the uptake of biogenic CO2 is released as another greenhouse gas (e.g., CH4). In the context of Norwegian public procurement legislation, GWP-GHG is also referred to as GWP-IOBC.

[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 experience 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.*

Waste indicators

Results per declared unit: m2															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**C1**	**C2**	**C3**	**C4**	**D**
HWD	kg	3,75E+01	3,69E-03	7,42E-02	0,00E+00	1,16E-03	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,25E-05	9,60E-04	0,00E+00	4,39E-01	-2,27E+00
NHWD	kg	1,21E+02	3,97E-02	1,12E-03	0,00E+00	1,44E-02	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	9,23E-05	1,03E-02	0,00E+00	0,00E+00	-7,34E+00
RWD	kg	3,34E-03	0,00E+00	1,78E-06	0,00E+00	3,05E-05	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	1,47E-09	0,00E+00	0,00E+00	5,72E-07	-6,48E-05
Acronyms	**HWD**: Hazardous waste disposed; **NHWD**: Non-hazardous waste disposed; **RWD**: Radioactive waste disposed															

Output flow indicators

Results per declared unit: m2															
Indicator	**Unit**	**A1-A3**	**A4**	**A5**	**B1**	**B2**	**B3**	**B4**	**B5**	**B6**	**B7**	**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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	3,85E-02	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	0,00E+00	0,00E+00
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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	5,48E-01	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	4,09E+00	0,00E+00
EET	MJ	0,00E+00	0,00E+00	1,09E+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	0,00E+00	8,36E+00	0,00E+00
Acronyms	**CRU**: Components for reuse; **MFR**: Materials for recycling; **MER**: Materials for energy recovery; **EEE**: Exported electric energy; **EET**: Exported thermal energy															

Information on biogenic carbon content

Parameter	Unit	Value
Biogenic carbon content in product	kg C	1,23E+00
Biogenic carbon content in the accompanying packaging	kg C	9,60E-02

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

Environmental impact performance from 100% scenarios

Potential environmental impact – indicators according to EN 15804+A2

Results per declared unit: m2													
Indicator	**Unit**	**C2 100% RC**	**C2 100% INC**	**C2 100% LF**	**C3 100% RC**	**C3 100% INC**	**C3 100% LF**	**C4 100% RC**	**C4 100% INC**	**C4 100% LF**	**D 100% RC**	**D 100% INC**	**D 100% LF**
GWP-total	kg CO2 eq	4,13E-02	6,71E-02	4,95E-02	4,65E+00	0,00E+00	0,00E+00	2,27E-05	6,39E+00	5,36E+00	-1,68E+01	-9,74E-01	-3,65E-01
GWP-fossil	kg CO2 eq	4,12E-02	6,70E-02	4,95E-02	9,51E-02	0,00E+00	0,00E+00	2,27E-05	1,86E+00	6,93E-01	-5,85E+00	-9,72E-01	-3,64E-01
GWP-biogenic	kg CO2 eq	8,69E-06	1,41E-05	1,04E-05	4,55E+00	0,00E+00	0,00E+00	0,00E+00	4,52E+00	4,66E+00	-9,47E+00	-9,55E-04	-3,61E-04
GWP-luluc	kg CO2 eq	1,37E-05	2,22E-05	1,64E-05	6,18E-05	0,00E+00	0,00E+00	1,87E-08	3,68E-05	4,05E-05	-1,49E+00	-1,20E-03	-4,54E-04
ODP	kg CFC-11 eq	8,99E-10	1,46E-09	1,08E-09	1,05E-09	0,00E+00	0,00E+00	3,84E-17	3,44E-09	2,85E-09	-5,58E-08	-1,06E-08	-3,97E-09
AP	mole H+ eq	1,32E-04	2,15E-04	1,59E-04	4,22E-04	0,00E+00	0,00E+00	6,82E-08	3,34E-03	2,46E-03	-4,23E-01	-6,48E-03	-2,43E-03
EP-freshwater	kg P eq	2,82E-06	4,58E-06	3,38E-06	2,80E-05	0,00E+00	0,00E+00	4,37E-09	1,30E-04	1,39E-05	-4,31E-03	-5,79E-04	-2,18E-04
EP-marine	kg N eq	4,49E-05	7,30E-05	5,39E-05	2,82E-04	0,00E+00	0,00E+00	1,57E-08	2,84E-03	1,83E-03	-8,37E-02	-9,20E-04	-3,45E-04
EP-terrestrial	mole N eq	4,85E-04	7,88E-04	5,82E-04	1,36E-03	0,00E+00	0,00E+00	1,72E-07	1,68E-02	1,22E-02	-1,87E+00	-9,20E-03	-3,45E-03
POCP	kg NMVOC eq	2,01E-04	3,26E-04	2,41E-04	4,23E-04	0,00E+00	0,00E+00	4,97E-08	4,08E-03	3,08E-03	-2,38E-02	-2,87E-03	-1,07E-03
ADP-minerals & metals[1]	kg Sb eq	1,39E-07	2,26E-07	1,67E-07	1,21E-06	0,00E+00	0,00E+00	6,03E-13	4,49E-07	3,27E-07	-3,88E-05	-9,52E-07	-3,60E-07
ADP-fossil[1]	MJ	5,87E-01	9,53E-01	7,04E-01	8,94E-01	0,00E+00	0,00E+00	3,41E-04	1,83E+00	1,62E+00	-3,79E+01	-1,47E+01	-5,53E+00
WDP[1]	m3	3,14E-03	5,10E-03	3,76E-03	1,78E-02	0,00E+00	0,00E+00	-3,22E-07	2,09E-01	5,87E-02	-2,58E+01	-2,65E-01	-1,00E-01
Acronyms	**GWP-total**: Total Global Warming Potential; **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; **RC**: Recycling; **INC**: Incineration; **LF**: Landfill												

[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 experience with the indicator.

Use of resources 100% scenarios

Results per declared unit: m2													
Indicator	**Unit**	**C2 100% RC**	**C2 100% INC**	**C2 100% LF**	**C3 100% RC**	**C3 100% INC**	**C3 100% LF**	**C4 100% RC**	**C4 100% INC**	**C4 100% LF**	**D 100% RC**	**D 100% INC**	**D 100% LF**
PERE	MJ	2,26E-01	3,68E-01	2,72E-01	1,16E+01	0,00E+00	0,00E+00	3,07E-05	1,15E+01	1,18E+01	-1,37E+02	-2,76E+00	-1,04E+00
PERM	MJ	0,00E+00	0,00E+00	0,00E+00	-1,15E+01	0,00E+00	0,00E+00	0,00E+00	-1,15E+01	-1,15E+01	-1,03E+01	0,00E+00	0,00E+00
PERT	MJ	2,26E-01	3,68E-01	2,72E-01	9,12E-02	0,00E+00	0,00E+00	3,07E-05	5,81E-02	3,17E-01	-1,47E+02	-2,76E+00	-1,04E+00
PENRE	MJ	8,03E-01	1,31E+00	9,65E-01	8,94E-01	0,00E+00	0,00E+00	3,41E-04	1,83E+00	1,62E+00	-3,80E+01	-1,47E+01	-5,53E+00
PENRM	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	0,00E+00	0,00E+00
PENRT	MJ	8,03E-01	1,31E+00	9,65E-01	8,94E-01	0,00E+00	0,00E+00	3,41E-04	1,83E+00	1,62E+00	-3,80E+01	-1,47E+01	-5,53E+00
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	0,00E+00	0,00E+00
RSF	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	0,00E+00	0,00E+00
NRSF	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	0,00E+00	0,00E+00
FW	m3	7,30E-05	1,19E-04	8,77E-05	3,09E-04	0,00E+00	0,00E+00	3,35E-09	3,49E-03	1,35E-03	-6,01E-01	-6,14E-03	-2,32E-03
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; **LF**: Landfill; **RC**: Recycling; **INC**: Incineration												

Additional voluntary indicators 100% scenarios

Results per declared unit: m2

Indicator	Unit	C2 100% RC	C2 100% INC	C2 100% LF	C3 100% RC	C3 100% INC	C3 100% LF	C4 100% RC	C4 100% INC	C4 100% LF	D 100% RC	D 100% INC	D 100% LF
GWP-GHG	kg CO2 eq	4,13E-02	6,71E-02	4,95E-02	1,22E-01	0,00E+00	0,00E+00	2,27E-05	1,86E+00	8,32E-01	-1,68E+01	-9,74E-01	-3,65E-01
PM	Disease incidence	2,67E-09	4,34E-09	3,21E-09	6,67E-09	0,00E+00	0,00E+00	6,62E-13	1,31E-08	1,46E-08	-3,16E-06	-5,56E-08	-2,07E-08
IRP[2]	kBq U235 eq.	6,98E-04	1,13E-03	8,38E-04	7,39E-03	0,00E+00	0,00E+00	5,96E-07	4,48E-03	4,09E-03	-1,24E-01	-2,53E-01	-9,58E-02
ETP-fw[1]	CTUe	7,69E-02	1,25E-01	9,23E-02	7,15E-01	0,00E+00	0,00E+00	2,90E-04	4,47E+00	3,34E+00	-9,89E+01	-1,67E+00	-6,28E-01
HTP-c[1]	CTUh	7,44E-12	1,21E-11	8,93E-12	5,53E-11	0,00E+00	0,00E+00	1,49E-14	2,33E-10	9,09E-11	-1,26E-08	-1,61E-10	-6,03E-11
HTP-nc[1]	CTUh	3,18E-10	5,16E-10	3,82E-10	1,83E-09	0,00E+00	0,00E+00	1,19E-12	5,67E-09	1,09E-09	6,16E-08	-6,50E-09	-2,44E-09
SQP[1]	Dimensionless	3,46E-01	5,62E-01	4,15E-01	2,69E+00	0,00E+00	0,00E+00	2,94E-05	4,72E-01	7,36E-01	-1,91E+03	-4,95E+00	-1,85E+00
Acronyms	**GWP-GHG**: global warming potential - greenhouse gases; **PM**: particulate matter; **IRP**: ionizing radiation potential; **ETP-fw**: ecotoxicity potential - freshwater; **HTP-c**: human toxicity potential - cancer; **HTP-nc**: human toxicity potential - non-cancer; **SQP**: smog formation potential; **LF**: Landfill; **RC**: Recycling; **INC**: Incineration												

The GWP-GHG indicator is identical to GWP-total except that the characterisation factor (CF) for biogenic CO2 is set to zero. This means that the uptake and emissions of biogenic CO2 are "balanced out already in modules A1 and A3, instead of in modules A5 (for packaging) or modules C3 and/or C4 (for the product). The results over the entire product life cycle, from module A to C, are thus identical for GWP-GHG and GWP-total unless some of the uptake of biogenic CO2 is released as another greenhouse gas (e.g., CH4). In the context of Norwegian public procurement legislation, GWP-GHG is also referred to as GWP-IOBC.

[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 experience 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.*

Waste indicators 100% scenarios

Results per declared unit: m2													
Indicator	**Unit**	**C2 100% RC**	**C2 100% INC**	**C2 100% LF**	**C3 100% RC**	**C3 100% INC**	**C3 100% LF**	**C4 100% RC**	**C4 100% INC**	**C4 100% LF**	**D 100% RC**	**D 100% INC**	**D 100% LF**
HWD	kg	5,91E-04	9,60E-04	7,09E-04	6,46E-01	0,00E+00	0,00E+00	2,86E-14	4,39E-01	2,68E-03	-6,13E-01	-2,27E+00	-8,47E-01
NHWD	kg	6,35E-03	1,03E-02	7,63E-03	0,00E+00	0,00E+00	0,00E+00	3,31E-04	0,00E+00	1,84E+00	-2,32E+00	-7,34E+00	-2,74E+00
RWD	kg	0,00E+00	0,00E+00	0,00E+00	1,89E-06	0,00E+00	0,00E+00	4,04E-09	5,72E-07	8,65E-09	-1,17E-05	-6,48E-05	-2,45E-05
Acronyms	**HWD**: Hazardous waste disposed; **NHWD**: Non-hazardous waste disposed; **RWD**: Radioactive waste disposed; **LF**: Landfill; **RC**: Recycling; **INC**: Incineration												

Output flow indicators 100% scenarios

Results per declared unit: m2													
Indicator	**Unit**	**C2 100% RC**	**C2 100% INC**	**C2 100% LF**	**C3 100% RC**	**C3 100% INC**	**C3 100% LF**	**C4 100% RC**	**C4 100% INC**	**C4 100% LF**	**D 100% RC**	**D 100% INC**	**D 100% LF**
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	0,00E+00	0,00E+00
MFR	kg	0,00E+00	0,00E+00	0,00E+00	2,71E+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
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	0,00E+00	0,00E+00
EEE	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	4,09E+00	1,55E+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	8,36E+00	3,11E+00	0,00E+00	0,00E+00	0,00E+00
Acronyms	**CRU**: Components for reuse; **MFR**: Materials for recycling; **MER**: Materials for energy recovery; **EEE**: Exported electric energy; **EET**: Exported thermal energy; **LF**: Landfill; **RC**: Recycling; **INC**: Incineration												

Impact Indicators Variation

LCA result of one declared unit product (A-C)	Unit	Min	Max
GWP-total	kg CO2 eq.	0%	+3%
GWP-fossil	kg CO2 eq.	0%	+9%
GWP-GHG	kg CO2 eq.	0%	+3%
GWP-biogenic	kg CO2 eq.	-2%	0%
GWP-luluc	kg CO2 eq.	-1%	0%
ODP	kg CFC-11 eq.	0%	+13%
AP	Mole of H+ eq.	0%	+1%
EP-freshwater	kg P eq.	0%	+2%
EP-marine	kg N eq.	0%	+6%
EP-terrestial	Mole of N eq.	0%	0%
POCP	kg NMVOC eq.	0%	+12%
ADP-M&M	kg Sb eq.	0%	+8%
ADP-fossil	MJ	0%	+9%
WDP	m^3 world equiv.	0%	+22%

Additional environmental information - Conversion factors A1-A3 GWP-GHG

Product Name	Conversion factors
Terazzo	1,00
Esther	1,02

Abbreviations

General Abbreviations

EN	European Norm (Standard)
EF	Environmental Footprint
ISO	International Organization for Standardization
PCR	Product Category Rules
CEN	European Committee for Standardization
CPC	Central Product Classification
GRI	Global Reporting Initiative
EPD	Environmental Product Declaration
GPI	General Programme Instructions
LCA	Life Cycle Assessment
c-PCR	Complementary Product Category Rules
CLC	Co-location centre
GHS	Globally harmonized system of classification and labelling of chemicals

Environmental Impact Indicators (EN 15804)

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

Resource Use Indicators

PERE	Use of renewable primary energy excluding renewable primary energy resources used as raw materials (MJ)
PERT	Total use of renewable primary energy resources (MJ)
PENRM	Use of non-renewable primary energy resources used as raw materials (MJ)
SM	Use of secondary material (kg)
NRSF	Use of non-renewable secondary fuels (MJ)
PERM	Use of renewable primary energy resources used as raw materials (MJ)
PENRE	Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials (MJ)
PENRT	Total use of non-renewable primary energy resources (MJ)
RSF	Use of renewable secondary fuels (MJ)
FW	Use of net fresh water (m^3)

Abbreviations continued

Waste Indicators

HWD Hazardous Waste (disposed) (kg)

NHWD Non-Hazardous Waste (disposed) (kg)

RWD Radioactive Waste (disposed) (kg)

Output Flow Indicators

CRU Components for Reuse (kg)

MFR 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
RC	Recycling	LF	Landfill
P eq.	Phosphorus Equivalents	N eq.	Nitrogen Equivalents
CFC-11 eq.	Chlorofluorocarbon-11 Equivalents	CO2 eq.	Carbon Dioxide Equivalents
kg C	Kilograms of Carbon	kg CO2 eq.	Kilograms of Carbon Dioxide Equivalent
ND	Not Declared	INC	Incineration
MND	Module not declared		

References

- EN 15804:2012+A2:2019/AC:2021
  Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
- EPD International (2024)
  General Programme Instructions of the International EPD System, version 5.0.1
- ISO 14020:2022
  International Standard ISO 14020 – Environmental statements and programmes for products – Principles and general requirements
- ISO 14025:2006
  International Standard ISO 14025 – Environmental labels and declarations — Type III environmental declarations — Principles and procedures
- ISO 14040:2006
  International Standard ISO 14040: Environmental Management – Life cycle assessment – Principles and framework. Second edition 2006-07-01.
- ISO 14044:2006
  International Standard ISO 14044: Environmental Management – Life cycle assessment – Requirements and Guidelines.
- PCR 2019:14-c-PCR-004 - Resilient, textile and laminate floor coverings (EN 16810) (1.0.0), 2025-04-08
- Product Category Rules, PCR 2019:14 Construction products and construction services, version 2.0.1.

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