EPD
INTERNATIONAL EPD SYSTEM

ECO PLATFORM EPD VERIFIED

HOLCIM

Environmental Product Declaration

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

NON-REINFORCED EPDM MEMBRANES FOR WATERPROOFING

PROGRAME_

The International EPD System, www.environdec.com

PROGRAME OPERATOR_

EPD International AB

TYPE OF EPD_

EPD of multiple products, based on a representative product

EPD REGISTRATION NUMBER_

EPD-IES-0005953:001



VERSION DATE_

2026/03/27

VALIDITY DATE_

2031/03/27

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

PROGRAME INFORMATION

Programe	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

The EPD owner has the sole ownership, liability, and responsability 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.

PRODUCT CATEGORY RULES (PCR)

CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
Product Category Rules (PCR): PCR 2019:14 Construction products version 2.0.1

PCR review was conducted by: The Technical Committee of the International EPD System. A full list of members is available on www.environdec.com. The review panel may be contacted via support@environdec.com. Review Chair: Rob Rouwette (chair), Noa Meron (co-chair).

c-PCR: C-PCR-032 Flexible sheets for waterproofing (EN 17388:2024). Version: 2025-04-24.

LIFE CYCLE ASSESSMENT (LCA)

LCA accountability: inèdit innovació SL (www.ineditinnova.com); Email: info@ineditinnova.com

THIRD-PARTY VERIFICATION

Independent third-party verification of the declaration and data, according to ISO 14025:2006.

[X] Individual EPD verification without a pre-verified LCA/EPD tool

Third-party verifier: Marcel Gómez Ferrer from Marcel Gómez Consultoria Ambiental (www.marcelgomez.com); Email: info@marcelgomez.com

Approved by: The International EPD® System

Procedure for follow-up of data during EPD validity involves third party verifier:

[ ] Yes [X] No

Information about EPD owner

Owner of the EPD: HOLCIM SPAIN

Address: Carrer de Libra, 15, 08228 Terrassa.

Contact: info-hbe-es@holcim.com

Address and contact information of the LCA practitioner: info@ineditinnova.com ; Carrer de la Diputació, 37, 08015 Barcelona.

Holcim Spain is a leading company in the construction materials sector, part of the global Holcim Group. With a strong presence in Spain, the company produces a wide range of products, including, Flexible sheets for waterproofing, cement, concrete, and aggregates, focusing on meeting the needs of the construction industry with innovative solutions.

Holcim's commitment to sustainability is demonstrated through its environmental policy and vision, based on the following principles: Envisioning a sustainable future; Operating in harmony with nature; Valuing natural resources; Reducing CO_2 and other emissions.

The company strives to create long-term value by integrating sustainability into every aspect of its operations, from production to product development, aiming for a positive environmental impact and contributing to a circular economy.

Holcim plant in Terrassa is also certified with ISO 14001 and ISO 9001.



Product information

The representative product of this multi-product EPD is Giscolene F EPDM, which accounts for most of the production volume.

Giscolene F EPDM is a high performing sealing system for facade waterproofing, air tightening and moisture protection. It consists of strips made of an EPDM synthetic rubber compound that can be applied under cladding or around window frames.

It can also be used thru-wall flashing in masonry walls to prevent ground water to move up in the walls or to guide rainwater out of cavity walls in both commercial and residential buildings.



PRODUCT NAME_

Product identification: Giscolene F EPDM

UN CPC code: 3480

Name and location of production site(s): Production facility in Terrassa.

Carrer de Libra, 15, 08228 Terrassa.

Products included in the EPD

Giscolene EPDM



Giscolene EPDM is a high performing waterproofing system for residential flat roofs up to 100 m2.

APPLICATIONS

Roofing

GeoGard EPDM



GeoGard EPDM is a rubber geomembrane specially designed for applications related to environmental protection, agriculture and industry.

APPLICATIONS

Agricultural

PondGard EPDM



PondGard EPDM is a simple, robust and durable synthetic rubber membrane to waterproof the most beautiful and performing ponds.

APPLICATIONS

Pondlining

Name and location of production site(s):
Production facility in Terrassa.

Carrer de Libra, 15, 08228 Terrassa.

UN CPC code: 3480

Content declaration

This section provides detailed information on the composition and material characteristics of the EPDM facades membrane, in accordance with the requirements of EN 15804. It includes the mass of the product per declared unit, a breakdown of all materials and substances contained in the membrane and the mass and composition of the packaging used during distribution. The declared share of biogenic and recycled content is presented, based on the actual material composition during the reference production period.

PRODUCT COMPONENTS	WEIGHT %	POST-CONSUMER RECYCLED MATERIAL; WEIGHT - %	BIOGENIC MATERIAL kg C/m2
EPDM	30-40%	0%	0.00E+00
Carbon black	30-40%	0%	0.00E+00
White filler	10-15%	0%	0.00E+00
Plasticizer	20-30%	0%	0.00E+00
Additives + curatives	0-5%	0%	0.00E+00
TOTAL	0.71 kg/m2	0%	0.00E+00

PACKAGING MATERIALS	WEIGHT (kg/m²)	WEIGHT - % (VERSUS THE PRODUCT)	BIOGENIC MATERIAL kg C/m²
Cardboard (tube)	5.17E-02	6.81%	2.10E-02
Wrapping	2.32E-03	0.31%	0.00E+00
Label	1.78E-04	0.02%	6.56E-05
Adhesive strips	7.13E-04	0.09%	0.00E+00
Pallet	3.15E-02	4.14%	9.71E-03
Cardboard (box)	2.28E-02	3.00%	9.49E-03
TOTAL	1.09E-01	14.37%	4.03E-02

Holcim EPDM does not use Substances of Very High Concern, as stated in REACH legislation, during the life cycle of the product.

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

LCA information

Functional unit: 1 m^2 of surface area covered by the EPDM sheet, including 7% overlap, with a thickness of 0.75 mm and a life expectancy of over 50 years.

Conversion factor to mass: The weight per 1 m^2 of installed sheet is 0.71 kg/m^2 (+0.05 kg/m^2 overlap) and the conversion factor to 1kg is 1.316 m^2.

System boundaries: Cradle to grave + module D.

Reference service life: The study "Evaluation of the useful life of EPDM roofing membranes", SKZ (Süddeutsche Kunststoff-Zentrum) concluded that EPDM waterproofing membranes have a life expectancy of over 50 years.

Time representativeness: 2024.

Geographical scope: Global.

Database(s) and LCA software used: Ecoinvent 3.11 (cut-off EN 15804) and Simapro 10.2.

Impact model used: EN 15804 +A2 LCIA & LCI indicators

The climate impact of electricity purchased in the manufacturing process: 0.06 kg CO_2 eq./kWh

Allocation:

Since multiple EPDM products are manufactured at the same facility, mass allocation was applied to distribute energy consumption, water use, and waste generation among the different product lines. This method was selected because these environmental burdens are primarily driven by the mass throughput of each product category.

Description of scenario used in downstream stages:

Downstream data used for waste treatment and transportation scenarios are from EUROSTAT. These data come from reliable sources and are representative of the primary market for the product (Europe).

Data quality:

Based on Annex E of EN 15804, the data used in this LCA is considered very good, as the primary data from Holcim's Terrassa plant accurately reflects real operating conditions and the technology used. The secondary downstream data also meets the required quality standards, being recent, representative of the European market, and sourced from reliable datasets.

Process flow diagram:



LCA information

A1 – A3 PRODUCT STAGE

The production process starts with the supply of uncured EPDM compound and packaging materials from multiple suppliers, followed by heating, extruding, calendering, cooling, cutting, and rolling of the membrane, with pre-curing scrap reintegrated into the process. After curing, the membrane is finished and packaged using cardboard tubes, plastic wrapping, labels, and boxes, while the waste generated throughout these steps is managed through recycling, incineration, or landfill.

A4 - A5 CONSTRUCTION STAGE

The EPDM facades membrane is then placed on pallets and distributed to clients worldwide.

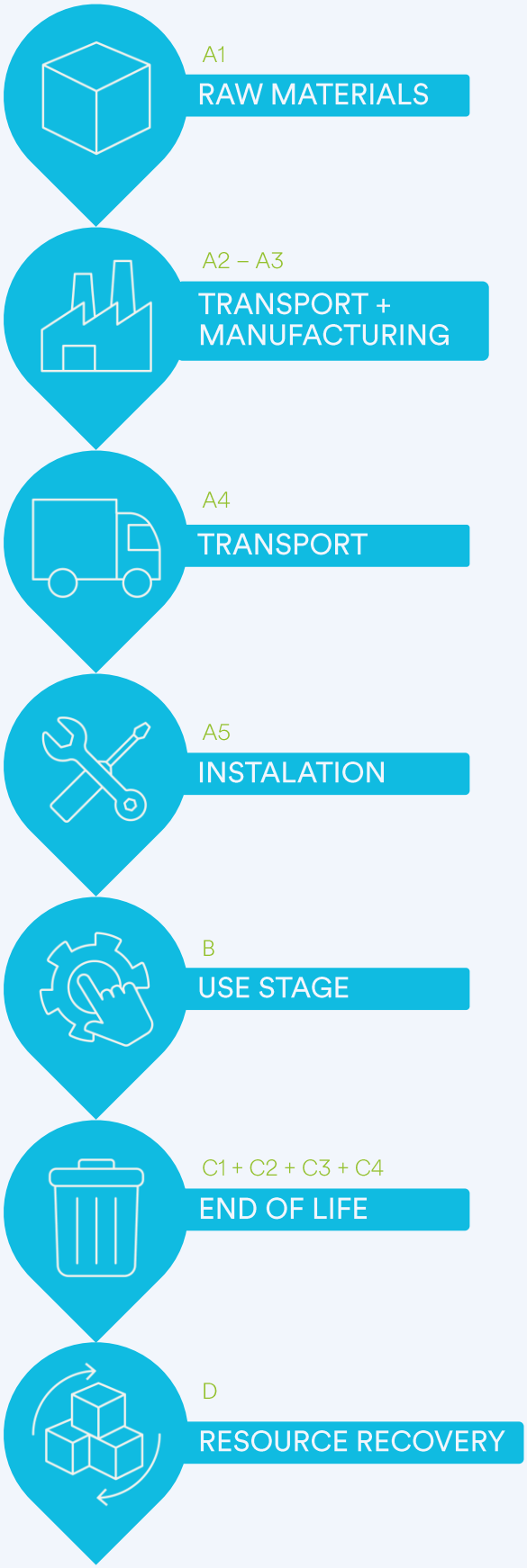
This analysis assumes that the non-reinforced EPDM membrane is installed on facades using a synthetic adhesive. An overlap of 7% has been considered in accordance with Table 1 of standard EN 17388.

The remaining packaging components are recycled, incinerated, or landfilled according to average European waste treatment data.

B1 – B7 USE STAGE

During the use phase, the EPDM membrane does not require maintenance, repair, replacement, or any type of operational input, due to its high durability, chemical stability, and resistance to environmental agents. Consequently, no energy, water, or material flows are associated with its use.

PROCESS FLOW DIAGRAM_



LCA information

C1 – C2 END OF LIFE STAGE

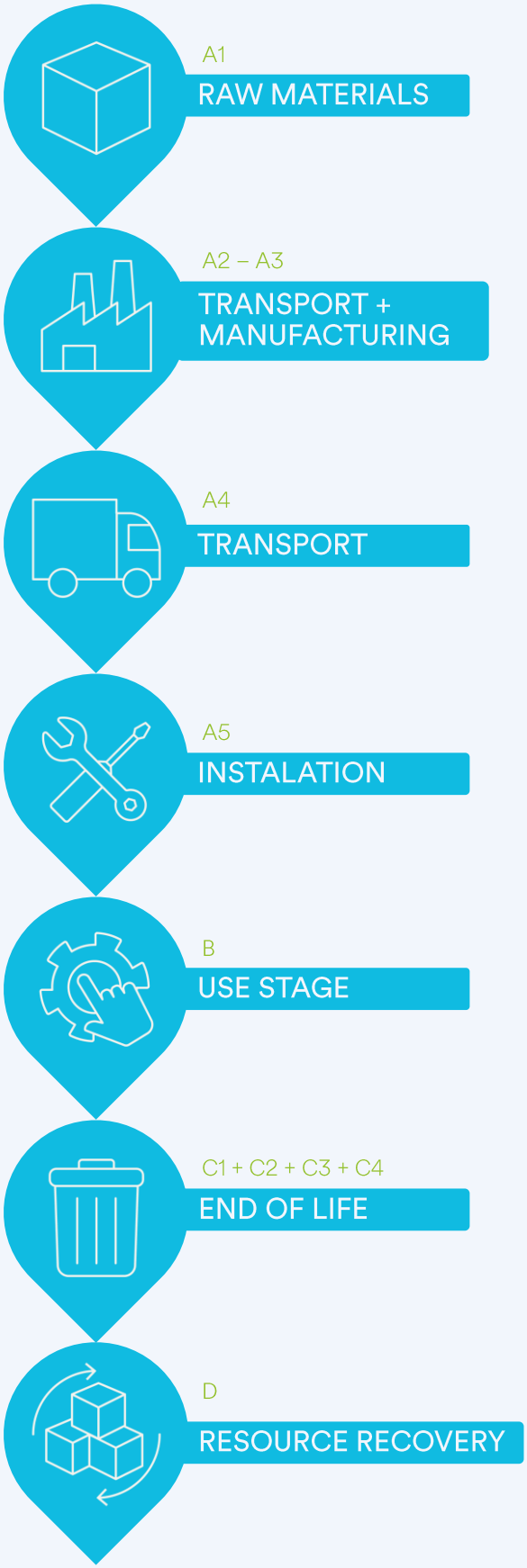
Regarding deconstruction (C1), the removal of the EPDM membrane is assumed to occur as part of the overall building demolition process. Therefore, no specific deconstruction activities or additional impacts are attributed to the product itself beyond those already accounted for in the general end-of-life modules (C2–C4).

The product has a Reference Service Life of 50 years and at the end of the membrane's useful life, the membrane is assumed to be sent to energy recovery and landfill.

D RESOURCE RECOVERY

Module D declares the potential environmental consequences of the net flows of secondary materials and energy that enter or leave the product life cycle (modules A-C). These are flows that have fulfilled the end-of-waste criteria, and thereby leave one product system for another, and have not been subject to co-product allocation. The calculation was according to the PCR rules and EN 15804.

PROCESS FLOW DIAGRAM_



LCA information

The following table summarizes key methodological aspects of the study, including the life cycle modules declared in the EPD, the geographical scope considered, the share of primary data contributing to the environmental results, and the data variation observed among the different EPDM products manufactured by Holcim. This information provides transparency on the representativeness, reliability, and robustness of the environmental outcomes reported in this EPD.

	Product stage			Distribution/ installation stage		Use stage							End-of-life stage				Beyond product life cycle
	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	EU 27	EU 27	SP	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO	GLO
Share of primary data	3.81%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – products	18%-81%			-	-	-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	0%			-	-	-	-	-	-	-	-	-	-	-	-	-	-

Environmental performance

LCA results of the product - main environmental performance results

The following section present the full set of environmental performance results for the EPDM membrane, reported in accordance with the requirements of EN 15804. This includes the mandatory and voluntary impact category indicators. Together, these indicators provide a comprehensive overview of the product's environmental profile and its contributions across multiple impact categories and resource-related dimensions.

MANDATORY IMPACT CATEGORY INDICATORS ACCORDING TO EN 15804

Results per functional or declared unit															
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq.	2.03 E+00	2.13 E-01	-1.16 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.04 E-02	1.08 E+00	3.84 E-02	-3.43 E-01
GWP-fossil	kg CO_2 eq.	1.87 E+00	2.13 E-01	2.11 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.03 E-02	1.08 E+00	3.83 E-02	-3.12 E-01
GWP-biogenic	kg CO_2 eq.	1.51 E-01	5.99 E-06	-1.37 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	8.49 E-07	6.41 E-06	1.22 E-05	0.00 E+00
GWP-luluc	kg CO_2 eq.	4.72 E-03	7.18 E-05	1.82 E-05	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.01 E-05	5.01 E-06	2.80 E-06	-4.88 E-04
ODP	kg CFC 11 eq.	5.22 E-08	4.62 E-09	4.32 E-10	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.61 E-10	3.25 E-10	1.15 E-10	-8.56 E-09
AP	mol H^+ eq.	7.35 E-03	7.53 E-04	1.47 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	9.74 E-05	1.51 E-04	3.30 E-05	-1.11 E-03
EP-freshwater	kg P eq.	4.34 E-04	1.45 E-05	4.50 E-06	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.07 E-06	3.02 E-06	4.81 E-07	-1.17 E-04
EP-marine	kg N eq.	1.60 E-03	2.45 E-04	4.46 E-05	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.28 E-05	6.00 E-05	8.54 E-04	-2.67 E-04
EP-terrestrial	mol N eq.	1.55 E-02	2.67 E-03	1.72 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.57 E-04	6.50 E-04	1.34 E-04	-2.19 E-03
POCP	kg NMVOC eq.	8.62 E-03	1.08 E-03	9.40 E-05	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.48 E-04	1.67 E-04	5.54 E-05	-8.28 E-04
ADP-minerals&metals[1]	kg Sb eq.	4.65 E-05	7.12 E-07	1.78 E-07	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.02 E-07	4.08 E-08	8.38 E-09	-2.22 E-06
ADP-fossil[1]	MJ	5.48 E+01	3.02 E+00	3.89 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	4.30 E-01	1.57 E-01	1.01 E-01	-6.26 E+00
WDP[1]	M^3 depriv.	1.11 E+00	1.52 E-02	6.65 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.17 E-03	4.44 E-02	-6.61 E-02	-1.53 E-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*														

[1]*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.*

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).

ADDITIONAL MANDATORY AND VOLUNTARY IMPACT CATEGORY INDICATORS

Results per functional or declared unit															
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG[1]	kg CO_2 eq.	1.88 E+00	2.13 E-01	3.19 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	3.04 E-02	1.08 E+00	3.84 E-02	-3.13 E-01
PM	Disease inc.	1.25 E-07	1.69 E-08	1.40 E-09	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.43 E-09	7.57 E-10	7.36 E-10	-7.88 E-09
IRP	kBq U-235 eq	1.59 E-01	3.58 E-03	1.58 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.13 E-04	6.28 E-04	8.58 E-05	-7.11 E-02
ETP-fw[2]	CTUe	1.78 E+01	3.99 E-01	4.48 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.71 E-02	1.79 E+00	1.40 E+00	-8.57 E-01
HTP-c[2]	CTUh	6.59 E-10	3.66 E-11	7.54 E-12	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.19 E-12	1.22 E-11	2.56 E-12	-7.33 E-11
HTP-nc[2]	CTUh	1.78 E-08	1.88 E-09	2.25 E-10	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.69 E-10	3.06 E-10	4.46 E-10	-2.32 E-09
SPQ[2]	Pt	1.12 E+01	1.76 E+00	7.20 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.54 E-01	5.01 E-02	2.39 E-01	-1.92 E+00
Acronyms	*PM = Particulate matter; IRP = Ionising radiation potential; ETP-fw = Ecotoxicity potential, freshwater; HTP-c = Human toxicity potential, cancer; HTP-nc = Human toxicity potential, non-cancer; SPQ = Land use related impacts soil quality.*															

[1]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 CO2 is set to zero.

[2]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.

RESOURCE USE INDICATORS

Results per functional or declared unit															
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	2.74 E+00	0.00 E+00	4.85 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-6.60 E-01
PERM	MJ	1.41 E+00	0.00 E+00	-1.41 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-3.07 E-01
PERT	MJ	4.16 E+00	0.00 E+00	-9.28 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-9.67 E-01
PENRE	MJ	4.14 E+01	0.00 E+00	6.23 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	9.08 E+00	0.00 E+00	-5.49 E+00
PENRM	MJ	2.02 E+01	0.00 E+00	-1.05 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-9.08 E+00	-1.10 E+01	-3.99 E-01
PENRT	MJ	6.16 E+01	0.00 E+00	-4.29 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-1.10 E+01	-5.89 E+00
SM	kg	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-6.47 E-04
RSF	MJ	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-5.12 E-06
NRSF	MJ	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
FW	m^3	2.62 E-02	3.76 E-04	1.63 E-04	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	5.38 E-05	1.04 E-03	-1.54 E-03	-3.78 E-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*															

WASTE INDICATORS

Results per functional or declared unit															
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste disposed	kg	7.23 E-02	4.33 E-03	1.03 E-03	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	6.16 E-04	3.37 E-02	1.69 E-04	-9.47 E-03
Non-hazardous waste disposed	kg	4.60 E+00	9.25 E-02	1.08 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.32 E-02	3.93 E-01	1.10 E+00	-6.35 E-01
Radioactive waste disposed	kg	3.89 E-05	8.82 E-07	3.95 E-07	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.27 E-07	1.64 E-07	2.10 E-08	-1.82 E-05

OUTPUT FLOW INDICATORS

Results per functional or declared unit															
Indicator	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Material for recycling	kg	1.00 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.58 E-02
Materials for energy recovery	kg	3.60 E-01	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	-1.00 E-02
Exported energy. electricity	MJ	3.50 E-04	0.00 E+00	3.16 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	1.12 E+00	0.00 E+00	-1.15 E-02
Exported energy. thermal	MJ	1.00 E-03	0.00 E+00	6.32 E-02	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	2.19 E+00	0.00 E+00	-2.19 E-04

Additional LCA results

VARATIONS INFORMATION

The variations observed between the environmental results of the different EPDM products are primarily driven by differences in membrane thickness, and therefore in product weight. Since the impact results are strongly influenced by the amount of raw material required, even small changes in thickness lead to significant variations in environmental performance. Differences in the composition and quantity of packaging materials also contribute to these variations, further influencing the overall results for each product.

Results per functional or declared unit				
Indicator	Unit	MIN	Representative	MAX
GWP-total	kg CO_2 eq.	18%	3.28E+00	79%
GWP-fossil	kg CO_2 eq.	18%	3.26E+00	79%
GWP-biogenic	kg CO_2 eq.	-59%	1.39E-02	-56%
GWP-luluc	kg CO_2 eq.	-6%	4.83E-03	17%
ODP	kg CFC 11 eq.	5%	5.84E-08	67%
AP	mol H^+ eq.	3%	8.53E-03	60%
EP-freshwater	kg P eq.	4%	4.59E-04	63%
EP-marine	kg N eq.	2%	2.84E-03	53%
EP-terrestrial	mol N eq.	1%	1.95E-02	50%
POCP	kg NMVOC eq.	4%	1.02E-02	63%
ADP-minerals&metals[1]	kg Sb eq.	9%	4.75E-05	73%
ADP-fossil[1]	MJ	5%	5.89E+01	72%
WDP[1]	M^3 depriv.	6%	1.12E+00	63%
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*			

[1]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.

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.

END OF LIFE SCENARIOS

Results per functional or declared unit										
Indicator	Unit	100% incineration			100% landfill			100% recycling		
		C3	C4	D	C3	C4	D	C3	C4	D
Climate change - Total	kg CO2 eq	2.40E+00	0.00E+00	-5.27E-01	0.00E+00	7.01E-02	8.51E-03	0.00E+00	0.00E+00	-1.78E+00
Climate change - Fossil	kg CO2 eq	2.40E+00	0.00E+00	-5.83E-01	0.00E+00	7.00E-02	-4.94E-02	0.00E+00	0.00E+00	-1.70E+00
Climate change - Biogenic	kg CO2 eq	1.42E-05	0.00E+00	0.00E+00	0.00E+00	2.23E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Climate change - Land use and LU change	kg CO2 eq	1.11E-05	0.00E+00	4.07E-04	0.00E+00	5.11E-06	1.15E-03	0.00E+00	0.00E+00	-2.32E-03
Ozone depletion	kg CFC11 eq	7.18E-10	0.00E+00	-1.76E-08	0.00E+00	2.10E-10	-2.29E-10	0.00E+00	0.00E+00	-4.86E-08
Acidification	mol H+ eq	3.33E-04	0.00E+00	-1.81E-03	0.00E+00	6.03E-05	-1.31E-04	0.00E+00	0.00E+00	-6.61E-03
Eutrophication. freshwater	kg P eq	6.68E-06	0.00E+00	-2.37E-04	0.00E+00	8.79E-07	4.37E-06	0.00E+00	0.00E+00	-3.96E-04
Eutrophication. marine	kg N eq	1.33E-04	0.00E+00	-3.29E-04	0.00E+00	1.56E-03	-8.35E-06	0.00E+00	0.00E+00	-1.33E-03
Eutrophication. terrestrial	mol N eq	1.44E-03	0.00E+00	-2.94E-03	0.00E+00	2.46E-04	6.21E-05	0.00E+00	0.00E+00	-1.33E-02
Photochemical ozone formation	kg NMVOC eq	3.68E-04	0.00E+00	-1.29E-03	0.00E+00	1.01E-04	-1.30E-04	0.00E+00	0.00E+00	-8.00E-03
Resource use. minerals and metals	kg Sb eq	9.01E-08	0.00E+00	-4.00E-06	0.00E+00	1.53E-08	-6.16E-07	0.00E+00	0.00E+00	-4.56E-05
Resource use. fossils	MJ	3.46E-01	0.00E+00	-1.16E+01	0.00E+00	1.85E-01	-1.30E+00	0.00E+00	0.00E+00	-5.29E+01
Water use	m3 depriv.	9.82E-02	0.00E+00	-1.72E-01	0.00E+00	-1.21E-01	-2.65E-02	0.00E+00	0.00E+00	-9.80E-01
PERE	MJ (LHV)	0.00E+00	0.00E+00	-1.70E+00	0.00E+00	0.00E+00	-1.88E-01	0.00E+00	0.00E+00	-2.94E+00
PERM	MJ (LHV)	0.00E+00	0.00E+00	4.52E-01	0.00E+00	0.00E+00	4.52E-01	0.00E+00	0.00E+00	-8.25E-01
PERT	MJ (LHV)	0.00E+00	0.00E+00	-1.25E+00	0.00E+00	0.00E+00	2.65E-01	0.00E+00	0.00E+00	-3.76E+00
PENRE	MJ (LHV)	2.01E+01	0.00E+00	-1.08E+01	0.00E+00	0.00E+00	-4.72E-01	0.00E+00	0.00E+00	-4.17E+01
PENRM	MJ (LHV)	-2.01E+01	0.00E+00	-3.78E-01	0.00E+00	-2.01E+01	-3.78E-01	0.00E+00	0.00E+00	-2.05E+01
PENRT	MJ (LHV)	0.00E+00	0.00E+00	-1.12E+01	0.00E+00	-2.01E+01	-8.49E-01	0.00E+00	0.00E+00	-6.22E+01
Net use of fresh water	m3	2.30E-03	0.00E+00	-4.48E-03	0.00E+00	-2.81E-03	-6.13E-04	0.00E+00	0.00E+00	-2.34E-02
Hazardous waste disposed	kg	7.44E-02	0.00E+00	-1.59E-02	0.00E+00	3.09E-04	-7.49E-05	0.00E+00	0.00E+00	-6.68E-02
Non-hazardous waste disposed	kg	8.69E-01	0.00E+00	-1.24E+00	0.00E+00	2.01E+00	-4.62E-02	0.00E+00	0.00E+00	-4.51E+00
Radioactive waste disposed	kg	3.61E-07	0.00E+00	-4.02E-05	0.00E+00	3.83E-08	4.20E-07	0.00E+00	0.00E+00	-3.61E-05

Additional Environmental Information

CONVERSION FACTORS

Holcim offers several product lines with the same composition and nearly identical production processes. The only variations are the membrane thickness and the intended use (roofing, agricultural lining, and pond lining). The environmental impact value for the EPDM membrane with a different thickness, compared to the one used for facades, can be calculated using the following formula:

$$Y = X * \frac{New\ membrane\ thickness}{Facades\ membrane\ thickness}$$

Where X represents the environmental impact value obtained for the facades, and Y is the interpolated value for the new membrane thickness. The thickness of the facade membrane is 0.75 mm.

Product	Membrane thickness (mm)
Giscolene F EPDM	0.75
Giscolene EPDM	1.2
GeoGard EPDM	1.2
PondGard EPDM	0.8



Abbreviations

Abbreviation	Definition
General Abbreviations	
EPD	EnvironmentalProduct Declaration
EN	European Norm (Standard)
EF	Environmental Footprint
ISO	International Organization for Standardization
CEN	European Committee for Standardization
CPC	Central product classification
NA	Not applicable
ND	Not Declared
LCA	Life Cycle Assessment
EPDM	Ethylene Propylene Diene Methylene
PCR	Product Category Rules
c-PCR	Complementary Product Category rules
Main Environmental Performance Indicators	
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

Abbreviation	Definition
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
Resource use Indicators	
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

References

- UNE-EN 15804:2012+A2:2020 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products.
- General Programme Instructions of International EPD System. Version 5.0.1.
- PCR 2019:14 Construction products version 2.0.1
- C-PCR-032 Flexible sheets for waterproofing (EN 17388:2024). Version: 2025-04-24.
- EN 17388:2024 Flexible sheets for waterproofing - Environmental product declarations - Product category rules for reinforced bitumen, plastic and rubber flexible sheets for roof waterproofing.
- EUROSTAT (2022). Treatment of waste by waste category and packaging waste
- ISO 14040:2006 - Environmental management - Life Cycle Assessment - Principles and Framework
- ISO 14044:2006 - Environmental management - Life Cycle Assessment - Requirements
- ISO 14025:2006 - Labels and environmental declarations.
- ISO 14001:2015 - Environmental management systems - Requirements with guidance for use
- ISO 9001:2015 - Quality management systems - Requirements



VERSION HISTORY

This is the first version of the EPD.

CONTACT_

For additional information, please contact:

info-hbe-es@holcim.com

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INTERNATIONAL EPD SYSTEM
www.environdec.com