



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Haloproof RMS 400 Nordic Waterproofing Holding AB



EPD HUB, HUB-3495 Published on 19.06.2025, last updated on 19.06.2025, valid until 18.06.2030

Life Cycle Assessment study has been performed in accordance with the requirements of EN 15804, EPD Hub PCR version 1.1 (5 Dec 2023) and JRC characterization factors EF 3.1.







GENERAL INFORMATION

MANUFACTURER

Manufacturer	Nordic Waterproofing Holding AB
Address	Vangsveien 10. 1814 Askim. Norway
Contact details	post@nordicwaterproofing.com
Website	www.mataki.no
EPD STANDARDS, SCOPE AND VERIFICATION	
Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 and ISO 14025
PCR	EPD Hub Core PCR Version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Parent EPD number	-
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Cameron Yates
EPD verification	Independent verification of this EPD and data, according to ISO 14025: □ Internal verification ☑ External verification
EPD verifier	Elma Avdyli, as an authorized verifier acting for EPD Hub Limited.

This EPD is intended for business-to-business and/or business-to-consumer communication. The manufacturer has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programs may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.







PRODUCT

Product name	Haloproof RMS 400
Additional labels	Haloproof RMS 1000 and RMS 300
Product reference	745 200, 745 202, 745 204, and 745 210
Place(s) of raw material origin	-
Place of production	Cardiff, UK
Place(s) of installation and use	Norway
Period for data	Calendar year 2024
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3 (%)	-
GTIN (Global Trade Item Number)	-
NOBB (Norwegian Building Product Database)	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m2 of Haloproof RMS 400
Declared unit mass	0.388 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1.06E+00
GWP-total, A1-A3 (kgCO ₂ e)	1.04E+00
Secondary material, inputs (%)	2.22
Secondary material, outputs (%)	100
Total energy use, A1-A3 (kWh)	4.57
Net freshwater use, A1-A3 (m ³)	0.02





PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Nordic Waterproofing is one of the leading providers in the waterproofing market in Northern Europe. The Group develops, manufactures and distributes a full range of products and solutions for the protection of buildings and infrastructure. Ease of installation, energy and environmental optimisation are key components of the offer.

PRODUCT DESCRIPTION

A high performance SINTEF approved film that is inserted into the floor structure to prevent radon gas from penetrating through the structure.

Further information can be found at www.nordicwaterproofing.com/.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	-
Minerals	10.05	EU
Fossil materials	89.95	EU
Bio-based materials	0	-

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.0041





FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m2 of Haloproof RMS 400
Mass per declared unit	0.388 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0,1 % (1000 ppm).







PRODUCT LIFE-CYCLE

SYSTEM BOUNDARY

This EPD covers the life-cycle modules listed in the following table.

	Product stage	9	Assemb	oly stage				Use stage				End of li	ife stage	Beyond the system boundaries				
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	СЗ	C4		D	
×	×	×	×	×	MND	MND	MND	MND	MND	MND	MND	×	×	×	×		×	
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

Modules not declared = MND. Modules not relevant = MNR

MANUFACTURING AND PACKAGING (A1-A3)

The environmental impacts considered for the product stage cover the manufacturing of raw materials used in the production as well as packaging materials and other ancillary materials. Also, fuels used by machines, and handling of waste formed in the production processes at the manufacturing facilities are included in this stage. The study also considers the material losses occurring during the manufacturing processes as well as losses during electricity transmission.

The damp proofing membrane consists mostly of LLDPE and LDPE with added pigments and additives. Materials that make up the product are delivered from external suppliers within EU. Raw materials (LLDPE and LDPE resins) are blended with pigments, masterbatch, and talc to achieve the desired properties, such as flexibility, strength, and barrier effectiveness. This mixture is then fed into an extruder, where it is melted, homogenized, and forced through a flat die to form a continuous thin sheet. The extruded sheet is then cooled and solidified before being trimmed and cut to the required dimensions. Finally, the finished membrane is rolled, inspected, and packaged for distribution and use in construction applications.





TRANSPORT AND INSTALLATION (A4-A5)

Transportation impacts occurred from final products delivery to construction site (A4) cover fuel direct exhaust emissions, environmental impacts of fuel production, as well as related infrastructure emissions.

Average distance of transportation from production plant to retailer's site is assumed as 2000 km and the transportation method is assumed to be lorry and ferry. Vehicle capacity utilization volume factor is assumed to be 1 which means full load. In reality, it may vary but as role of transportation emissions in total results is small, the variety in load is assumed to be negligible. To be conservative, empty returns are included in this study as implemented through an average load factor in the Ecoinvent transport datapoints. Transportation does not cause losses as product is packaged properly. Environmental impacts from installation into the building include generation of waste packaging materials (A5) and release of biogenic carbon dioxide from wood pallets and cardboard cores.

The product is installed using SINTEF approved tapes or welding using hot air welding equipment however it is not accounted in the LCA calculations.

PRODUCT USE AND MAINTENANCE (B1-B7)

No environmental impacts are expected during normal use of the damp proofing membrane, so use stage is not included in the EPD. Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

The disassembly of the product is assumed to be done manually, so no energy use is included in the assessment. It is assumed that the damp proofing membrane is collected separately and transported to a waste treatment facility for recycling as the product is 100% fully recyclable. Transportation distance to waste treatment plant is assumed to be 250 km and the transportation method is assumed to be lorry (C2). The end-of -life scenario is structured based on statistics by Plastic Europe (2020). Module C3 accounts for energy and resource inputs for sorting and treating of materials for recycling. Landfilled materials are included in module C4. The material and energy recovery potential of the product and its packaging results in avoided virgin material production and allows for energy recovery from incineration that replaces electricity and heat from primary sources. Benefits and loads from incineration and recycling are included in Module D.







MANUFACTURING PROCESS







LIFE-CYCLE ASSESSMENT

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the reference standard and the applied PCR. The study does not exclude any hazardous materials or substances. The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes, for which data is available for, are included in the calculation. There is no neglected unit process more than 1% of total mass or energy flows. The module specific total neglected input and output flows also do not exceed 5% of energy usage or mass.

VALIDATION OF DATA

Data collection for production, transport, and packaging was conducted using time and site-specific information, as defined in the general information section on page 1 and 2. Upstream process calculations rely on generic data as defined in the Bibliography section. Manufacturer-provided specific and generic data were used for the product's manufacturing stage. The analysis was performed in One Click LCA EPD Generator, with the 'Cut-Off, EN 15804+A2' allocation method, and characterization factors according to EN 15804:2012+A2:2019/AC2021 and JRC EF 3.1.

ALLOCATION, ESTIMATES AND ASSUMPTIONS

Allocation is required if some material, energy, and waste data cannot be measured separately for the product under investigation. All allocations are done as per the reference standards and the applied PCR. In this study, allocation has been done in the following ways:

Data type	Allocation
Raw materials	Allocated by mass or volume
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume





ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	С3	C4	D
GWP – total ¹⁾	kg CO₂e	1.02E+00	2.82E-02	-6.82E-03	1.04E+00	1.45E-01	2.53E-02	MND	0.00E+00	1.04E-02	6.47E-02	0.00E+00	-1.27E+00						
GWP – fossil	kg CO₂e	1.02E+00	2.82E-02	8.45E-03	1.06E+00	1.45E-01	1.01E-03	MND	0.00E+00	1.04E-02	6.47E-02	0.00E+00	-1.29E+00						
GWP – biogenic	kg CO₂e	4.38E-04	3.76E-06	-1.54E-02	-1.49E-02	2.93E-05	2.43E-02	MND	0.00E+00	2.37E-06	-2.69E-05	0.00E+00	2.05E-02						
GWP – LULUC	kg CO₂e	9.10E-04	1.01E-05	1.12E-04	1.03E-03	5.28E-05	1.50E-06	MND	0.00E+00	4.67E-06	3.53E-05	0.00E+00	-1.02E-03						
Ozone depletion pot.	kg CFC-11e	4.21E-08	5.59E-10	1.87E-10	4.29E-08	2.84E-09	1.14E-11	MND	0.00E+00	1.54E-10	1.73E-10	0.00E+00	-3.64E-08						
Acidification potential	mol H⁺e	3.40E-03	6.06E-05	5.14E-05	3.51E-03	3.13E-04	5.15E-06	MND	0.00E+00	3.56E-05	1.02E-04	0.00E+00	-4.68E-03						
EP-freshwater ²⁾	kg Pe	2.70E-04	1.90E-06	3.90E-06	2.76E-04	9.85E-06	3.45E-07	MND	0.00E+00	8.13E-07	6.58E-06	0.00E+00	-3.71E-04						
EP-marine	kg Ne	6.72E-04	1.46E-05	2.40E-05	7.11E-04	7.77E-05	2.65E-06	MND	0.00E+00	1.17E-05	6.45E-05	0.00E+00	-8.34E-04						
EP-terrestrial	mol Ne	6.74E-03	1.58E-04	1.73E-04	7.07E-03	8.40E-04	1.03E-05	MND	0.00E+00	1.27E-04	3.19E-04	0.00E+00	-8.68E-03						
POCP ("smog") ³)	kg NMVOCe	5.57E-03	9.90E-05	4.63E-05	5.71E-03	5.15E-04	3.41E-06	MND	0.00E+00	5.25E-05	9.60E-05	0.00E+00	-5.53E-03						
ADP-minerals & metals ⁴)	kg Sbe	8.27E-06	9.35E-08	5.45E-08	8.42E-06	4.78E-07	3.99E-08	MND	0.00E+00	2.91E-08	2.32E-07	0.00E+00	-8.10E-06						
ADP-fossil resources	MJ	3.03E+01	3.96E-01	1.36E-01	3.09E+01	2.04E+00	7.28E-03	MND	0.00E+00	1.52E-01	1.96E-01	0.00E+00	-3.44E+01						
Water use ⁵⁾	m³e depr.	6.83E-01	1.97E-03	1.15E-02	6.97E-01	1.01E-02	1.27E-02	MND	0.00E+00	7.48E-04	9.22E-03	0.00E+00	-4.02E-01						

1) GWP = Global Warming Potential; 2) EP = Eutrophication potential. Required characterisation method and data are in kg P-eq. Multiply by 3,07 to get PO4e; 3) POCP = Photochemical ozone formation; 4) ADP = Abiotic depletion potential; 5) EN 15804+A2 disclaimer for Abiotic depletion and Water use and optional indicators except Particulate matter and Ionizing radiation, human health. The results of these environmental impact indicators shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.





ADDITIONAL (OPTIONAL) ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	С3	C4	D
Particulate matter	Incidence	2.60E-08	2.08E-09	8.75E-10	2.90E-08	1.09E-08	4.67E-11	MND	0.00E+00	1.05E-09	1.65E-09	0.00E+00	-3.48E-08						
Ionizing radiation ⁶⁾	kBq U235e	1.39E-01	5.09E-04	1.37E-03	1.41E-01	2.58E-03	1.10E-04	MND	0.00E+00	1.32E-04	1.69E-03	0.00E+00	-1.57E-01						
Ecotoxicity (freshwater)	CTUe	2.86E+00	5.27E-02	7.35E-02	2.98E+00	2.73E-01	1.24E-02	MND	0.00E+00	2.14E-02	2.15E-01	0.00E+00	-7.92E+00						
Human toxicity, cancer	CTUh	2.75E-10	4.73E-12	1.41E-11	2.94E-10	2.43E-11	8.28E-13	MND	0.00E+00	1.72E-12	3.00E-11	0.00E+00	-1.71E-10						
Human tox. non-cancer	CTUh	8.81E-09	2.50E-10	1.51E-10	9.21E-09	1.29E-09	4.39E-11	MND	0.00E+00	9.81E-11	5.22E-10	0.00E+00	-9.05E-09						
SQP ⁷⁾	-	4.81E+00	2.40E-01	8.16E-01	5.87E+00	1.28E+00	5.33E-03	MND	0.00E+00	1.53E-01	3.71E-01	0.00E+00	-3.67E+00						

6) EN 15804+A2 disclaimer for lonizing radiation, human health. 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; 7) SQP = Land use related impacts/soil quality.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	СЗ	C 4	D
Renew. PER as energy ⁸⁾	MJ	1.67E+00	6.92E-03	3.20E-02	1.71E+00	3.53E-02	-1.18E-01	MND	0.00E+00	2.08E-03	2.60E-02	0.00E+00	-1.56E+00						
Renew. PER as material	MJ	0.00E+00	0.00E+00	1.28E-01	1.28E-01	0.00E+00	-1.28E-01	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-02						
Total use of renew. PER	MJ	1.67E+00	6.92E-03	1.60E-01	1.84E+00	3.53E-02	-2.46E-01	MND	0.00E+00	2.08E-03	2.60E-02	0.00E+00	-1.54E+00						
Non-re. PER as energy	MJ	1.52E+01	3.96E-01	-8.71E-01	1.47E+01	2.04E+00	-5.80E-03	MND	0.00E+00	1.52E-01	-1.63E+01	0.00E+00	-3.44E+01						
Non-re. PER as material	MJ	1.51E+01	0.00E+00	-8.39E-01	1.43E+01	0.00E+00	-1.75E-02	MND	0.00E+00	0.00E+00	-1.04E+01	-3.85E+00	1.65E+01						
Total use of non-re. PER	MJ	3.03E+01	3.96E-01	-1.71E+00	2.90E+01	2.04E+00	-2.33E-02	MND	0.00E+00	1.52E-01	-2.67E+01	-3.85E+00	-1.79E+01						
Secondary materials	kg	8.61E-03	1.84E-04	4.50E-03	1.33E-02	9.43E-04	1.20E-05	MND	0.00E+00	6.45E-05	1.29E-03	0.00E+00	4.09E-01						
Renew. secondary fuels	MJ	1.18E-02	2.32E-06	2.10E-03	1.39E-02	1.19E-05	5.99E-08	MND	0.00E+00	8.19E-07	1.05E-05	0.00E+00	-3.58E-05						
Non-ren. secondary fuels	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Use of net fresh water	m³	1.72E-02	5.40E-05	2.63E-04	1.75E-02	2.80E-04	2.86E-04	MND	0.00E+00	2.24E-05	1.40E-04	0.00E+00	-1.12E-02						

8) PER = Primary energy resources.





END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	С3	C4	D
Hazardous waste	kg	4.23E-02	5.77E-04	6.42E-04	4.35E-02	3.00E-03	8.04E-05	MND	0.00E+00	2.57E-04	4.09E-03	0.00E+00	-7.12E-02						
Non-hazardous waste	kg	1.59E+01	1.21E-02	1.14E-01	1.60E+01	6.27E-02	1.64E-02	MND	0.00E+00	4.75E-03	1.27E-01	0.00E+00	-4.97E+00						
Radioactive waste	kg	3.56E-05	1.27E-07	3.39E-07	3.60E-05	6.41E-07	2.47E-08	MND	0.00E+00	3.23E-08	4.31E-07	0.00E+00	-3.97E-05						
END OF LIFE – OL	JTPUT FI	LOWS																	
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	С3	C4	D
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Materials for recycling	kg	0.00E+00	0.00E+00	1.07E-01	1.07E-01	0.00E+00	6.23E-03	MND	0.00E+00	0.00E+00	3.88E-01	0.00E+00	0.00E+00						
Materials for energy rec	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Exported energy	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-02	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Exported energy – Electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.16E-03	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
Exported energy – Heat	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.70E-03	MND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00						
ENVIRONMENTA	L IMPAC	TS – EN	N 15804	+A1															
Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	С3	C4	D
Global Warming Pot.	kg CO₂e	1.01E+00	2.80E-02	8.97E-03	1.05E+00	1.44E-01	1.67E-03	MND	0.00E+00	1.04E-02	6.46E-02	0.00E+00	-1.26E+00						
Ozone depletion Pot.	kg CFC-11e	3.43E-08	4.45E-10	1.58E-10	3.49E-08	2.26E-09	8.91E-12	MND	0.00E+00	1.23E-10	1.47E-10	0.00E+00	-2.98E-08						
Acidification	kg SO₂e	2.81E-03	4.87E-05	3.75E-05	2.90E-03	2.50E-04	4.24E-06	MND	0.00E+00	2.72E-05	7.88E-05	0.00E+00	-3.91E-03						
Eutrophication	kg PO₄³e	3.73E-03	1.21E-05	8.12E-05	3.82E-03	6.30E-05	1.43E-06	MND	0.00E+00	6.62E-06	1.95E-05	0.00E+00	-1.90E-02						
POCP ("smog")	kg C ₂ H ₄ e	5.08E-04	5.06E-06	4.24E-06	5.17E-04	2.61E-05	4.04E-07	MND	0.00E+00	2.42E-06	8.14E-06	0.00E+00	-4.27E-04						
ADP-elements	kg Sbe	8.16E-06	9.14E-08	5.82E-08	8.31E-06	4.67E-07	3.97E-08	MND	0.00E+00	2.84E-08	2.29E-07	0.00E+00	-8.00E-06						
ADP-fossil	MJ	2.79E+01	3.88E-01	1.14E-01	2.84E+01	2.00E+00	5.71E-03	MND	0.00E+00	1.49E-01	1.67E-01	0.00E+00	-3.17E+01						





ENVIRONMENTAL IMPACTS – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	С3	C4	D
GWP-GHG ⁹⁾	kg CO₂e	1.02E+00	2.82E-02	8.56E-03	1.06E+00	1.45E-01	1.01E-03	MND	0.00E+00	1.04E-02	6.47E-02	0.00E+00	-1.29E+00						

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product as defined by IPCC AR 5 (IPCC 2013). In addition, the characterisation factors for the flows - CH4 fossil, CH4 biogenic and Dinitrogen monoxide - were updated in line with the guidance of IES PCR 1.2.5 Annex 1. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterization factor for biogenic CO2 is set to zero.







VERIFICATION STATEMENT

EPD Hub declares that this EPD is verified in accordance with ISO 14025 by an independent, third-party verifier and has been generated using a pre-verified tool. The project report on the Life Cycle Assessment and the report(s) on features of environmental relevance are filed at EPD Hub. EPD Hub PCR and ECO Platform verification checklist are used.

EPD Hub is not able to identify any unjustified deviations, by the Environmental Product Declaration and by its project report from the requirements outlined in the corresponding product category regulations based on EN 15804+A2.

EPD Hub maintains its independence as a third-party body; it was not involved in the execution of the LCA or in the development of the declaration and has no conflicts of interest regarding this verification. EPD Hub confirms that it possesses sufficient knowledge and experience in construction products and the relevant standards to carry the verification.

The company-specific data and upstream and downstream data have been

examined as regards plausibility and consistency; the manufacturer(s) or group of manufacturers are responsible for its factual integrity.

EPD Hub has performed a detailed examination of the pre-verified tool and underlying data to ensure that there are no deviations in the studied Environmental Product Declaration (EPD), its Life Cycle Assessment (LCA), and project report. The tool is implemented according to the procedural and methodological requirements outlined in ISO 14025:2010, ISO 14040/14044, EN 15804+A2, and EPD Hub Core Product Category Rules version 1.1 and General Program Instructions version 1.2.

Tool verifier: Hai Ha Nguyen Tool verification validity: 20 Dec 2024 - 19 Dec 2027

Elma Avdyli, as an authorized verifier acting for EPD Hub Limited. 19.06.2025







ANNEX 1 – SCALING TABLE

Product Name			A1-A3, EN 15804+A2				
		GWP	GWP _{-total}	GWP-fossil	GWP.		
					biogenic		
RMS 400	0.388 kg	1,045	1,04	1,06	-0,01		
RMS 1000	0.922 kg	2,49	2,48	2,51	-0,0332		
RMS 300	0.291kg	0.78	0,78	0.79	-0,01		

