



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025 / ISO 21930

PROMASEAL®-LX Pro
PROMAT SpA.



EPD HUB, HUB-1179

Publishing date 01 March 2024, last updated on 01 March 2024, valid until 01 March 2029.

GENERAL INFORMATION

MANUFACTURER

Manufacturer	PROMAT SpA.
Address	Via Provinciale 10, 24040 Filago, Italy
Contact details	info@etexgroup.com
Website	www.promat.com

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 1.0, 1 Feb 2022
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with modules A5*, C1-C4, D
EPD author	Parisa Rafiaani, PRTC N.V., ETEX Group
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal certification <input checked="" type="checkbox"/> External verification
EPD verifier	Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

* Module A5 only includes the packaging waste of the final product.

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	PROMASEAL®-LX Pro
Additional labels	PROMASEAL® PROFILES
Product reference	-
Place of production	Filago, Italy
Period for data	01/01/2022 to 31/12/2022
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg of fire protection seal
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	3,14E+00
GWP-total, A1-A3 (kgCO ₂ e)	2,71E+00
Secondary material, inputs (%)	0.598
Secondary material, outputs (%)	0.0
Total energy use, A1-A3 (kWh)	13.5
Total water use, A1-A3 (m ³ e)	1,10E-01

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Promat is part of the global Etex Group of Companies, which operates across Europe, Africa, Near & Middle East and South America. Promat is the expert and worldwide reference in passive fire protection and high-performance insulation for the construction sector and a large number of industrial markets.

PRODUCT DESCRIPTION

PROMASEAL® PRO is graphite-based, intumescent fire protection seal that intumesces above approx.190 °C. PROMASEAL® LX PRO is the PROMASEAL®LX in the shape of Profile. It is available in two versions: A hot gas seal that protects against smoke and the spreading of fire; and a combination of a cold and hot gas seal that additionally protects against draft and noise. PROMASEAL®LX range has safety and fire test certifications and approval in accordance to ETA 18/0199 and EAD 350005-00-1104.

PROMASEAL®LX Pro is resistant to atmospheric effects (light, heat, frost, UV radiation, humidity). It is mainly used to secure against spread of fire and smoke between fire-resistant components and special components, in particular fire doors and gates, fire dampers and shutters and glazing. The profile can receive a surface treatment via the application of self-adhesive tape. This EPD has been created based on the results of the naked profile, and the impact of the self-adhesive tape for the declared unit is added as an Annex.

Geographic Representativeness of the EPD is EUROPE in which the declared product system is manufactured, used or handled at the end of the product's lifespan.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass- %	Material origin
Metals	-	
Minerals	38.93	Europe, World
Fossil materials	61.07	Europe
Bio-based materials	-	

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	0.119

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg of fire protection seal
Mass per declared unit	1 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			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5*	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D		
x	x	x	MND	x	MND	MND	MND	MND	MND	MND	MND	x	x	x	x	x		
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse	Recovery	Recycline

Modules not declared = MND. Modules not relevant = MNR.

*Module A5 only includes waste treatment of the packaging of the final product. Installation itself has not been included.

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.

Transport for raw materials considers the distance from the extraction or manufacturing location of the raw material to the production plant and the modelling of the relevant transportation type (e.g. bulk sea fret, road lorry, train, ...) for each raw material.

Regarding the energy used, 100% of the electricity (as the only source of the energy consumption) used in the manufacturing plant is sourced from renewable sources (100% hydropower).

Water is used for cooling and cleaning requirement. No process liquid water is released to the environment as a 100% closed circuit is in place at the manufacturing plant. There might be a minor amount of water discharge which is not tracked at the plant level and is negligible.

Plant specific manufacturing waste data is reported by each manufacturing location into the Etex internal information system. Based on this data, a representative production loss ratio was considered in the LCA calculations. The transport assumptions for manufacturing wastes are calculated taking into account the address of the plant where the waste is generated and the address of the third party location where the waste is treated. The transportation method reflects the actual type of transport used being road transport via lorry.

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.

Transport and installation (A4-A5) phases are not included in the scope of the EPD. Only packaging waste is included in module A5. Since the product becomes a part of another product, different applications and installation scenarios can be possible. Therefore, the installation scenario itself is not included.

PRODUCT USE AND MAINTENANCE (B1-B7)

The use phase is not included in the scope of the EPD, as a wide range of different applications and installation scenarios can be applied. Air, soil, and water impacts during the use phase have not been studied.

The PROMASEAL product becomes a part of another product. Therefore, Reference Service Life depends on the application. Under normal conditions of use, the product is supposed to remain its characteristics as long as the application lasts.

PRODUCT END OF LIFE (C1-c4, D)

At the end-of-life, 100% landfill scenario is considered as the average European scenario for PROMASEAL range.

The consumption of energy and natural resources is negligible for disassembling of the end-of-life product since the PROMASEAL product becomes a part of another product. Therefore, the impacts of demolition are assumed to be zero (C1).

The transportation distance to the disposal area is estimated as 50 km via lorry.

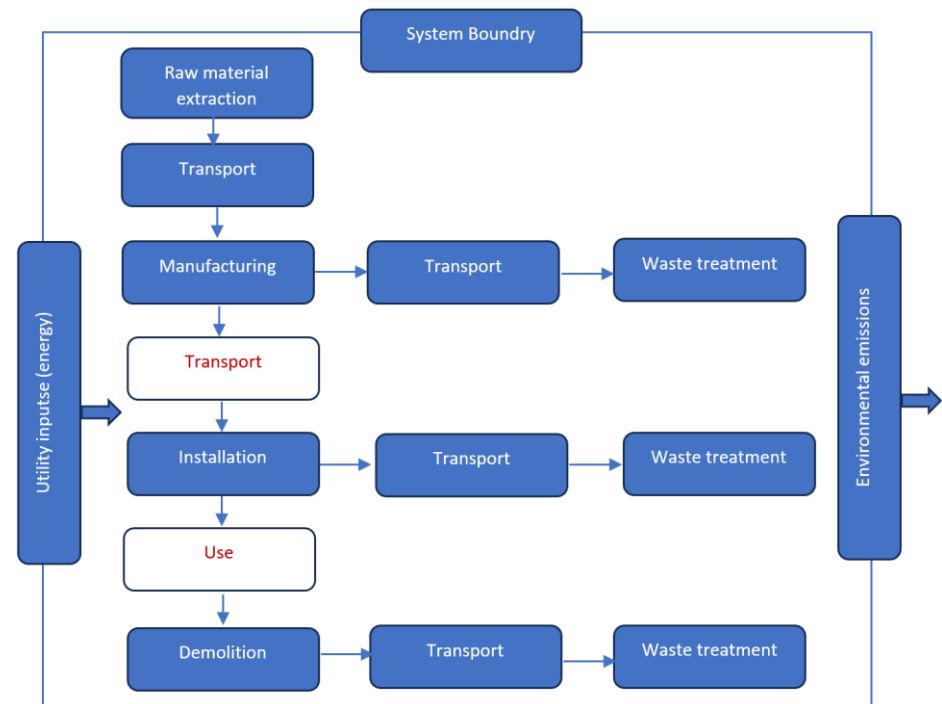
No benefits and loads regarding the product are allocated to module D, as the product is 100 % landfilled. However, some minor benefits and loads regarding the packaging of the product are allocated to module D.

MANUFACTURING PROCESS

DESCRIPTION

All raw materials are mixed and are dosed into extruder where it is heated up and mixed with powder and shaped into a profile with nozzle. The profile is cooled and calibrated to the final shape. The material receives a surface treatment (if required). The finished product is then packaged and ready for transport.

See below the manufacturing process flow diagram. Transport (Module A4), and the use phase (Module B) were not included in the system boundary. Module A5 only includes the packaging waste of the final product.



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.

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	No allocation
Packaging materials	Allocated by mass or volume
Ancillary materials	No allocation
Manufacturing energy and waste	Allocated by mass or volume

AVERAGES AND VARIABILITY

Type of average	No averaging
Averaging method	Not applicable
Variation in GWP-fossil for A1-A3	- %

There is no average result considered in this study since this EPD refers to one specific product produced in one production plant.

The product is available with and without surface treatment via the self-adhesive tape. This EPD was created based on the naked profile, and the impact of the self-adhesive tape for the declared unit is added as an Annex.

LCA SOFTWARE AND BIBLIOGRAPHY

This EPD has been created using One Click LCA EPD Generator. The LCA and EPD have been prepared according to the reference standards and ISO 14040/14044. Ecoinvent v3.8 and One Click LCA databases were used as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	2,71E+00	MND	4,42E-01	MND	MND	MND	MND	MND	MND	MND	MNR	1,13E-02	0,00E+00	3,22E-03	-6,10E-01
GWP – fossil	kg CO ₂ e	3,14E+00	MND	7,76E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,13E-02	0,00E+00	3,22E-03	-1,74E-01
GWP – biogenic	kg CO ₂ e	-4,35E-01	MND	4,35E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	-4,35E-01
GWP – LULUC	kg CO ₂ e	4,08E-03	MND	7,03E-06	MND	MND	MND	MND	MND	MND	MND	MNR	5,51E-06	0,00E+00	3,67E-07	-1,27E-03
Ozone depletion pot.	kg CFC ₁₁ e	2,77E-07	MND	7,44E-10	MND	MND	MND	MND	MND	MND	MND	MNR	2,40E-09	0,00E+00	5,52E-10	-2,29E-08
Acidification potential	mol H ⁺ e	1,77E-02	MND	3,67E-05	MND	MND	MND	MND	MND	MND	MND	MNR	4,59E-05	0,00E+00	2,99E-05	-1,17E-03
EP-freshwater ²⁾	kg Pe	1,33E-04	MND	2,41E-07	MND	MND	MND	MND	MND	MND	MND	MNR	1,07E-07	0,00E+00	3,64E-08	-1,31E-05
EP-marine	kg Ne	3,52E-03	MND	9,42E-06	MND	MND	MND	MND	MND	MND	MND	MNR	1,29E-05	0,00E+00	1,18E-05	-6,33E-04
EP-terrestrial	mol Ne	4,09E-02	MND	9,50E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,42E-04	0,00E+00	1,29E-04	-4,36E-03
POCP (“smog”) ³⁾	kg NMVOCe	6,93E-01	MND	3,01E-05	MND	MND	MND	MND	MND	MND	MND	MNR	4,35E-05	0,00E+00	3,77E-05	-9,47E-04
ADP-minerals & metals ⁴⁾	kg Sbe	2,61E-05	MND	8,30E-08	MND	MND	MND	MND	MND	MND	MND	MNR	5,10E-08	0,00E+00	1,79E-09	-1,06E-06
ADP-fossil resources	MJ	5,47E+01	MND	8,77E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,60E-01	0,00E+00	3,93E-02	-2,53E+00
Water use ⁵⁾	m ³ e depr.	3,80E+00	MND	1,43E-03	MND	MND	MND	MND	MND	MND	MND	MNR	7,79E-04	0,00E+00	1,42E-04	-1,10E-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, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,90E-07	MND	2,04E-09	MND	MND	MND	MND	MND	MND	MND	MNR	8,35E-10	0,00E+00	7,27E-10	-2,92E-08
Ionizing radiation ⁶⁾	kBq U235e	1,86E-01	MND	8,08E-04	MND	MND	MND	MND	MND	MND	MND	MNR	7,44E-04	0,00E+00	1,76E-04	-2,04E-02
Ecotoxicity (freshwater)	CTUe	5,43E+01	MND	1,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,57E-01	0,00E+00	4,05E-02	-6,46E+00
Human toxicity, cancer	CTUh	1,46E-09	MND	2,05E-11	MND	MND	MND	MND	MND	MND	MND	MNR	4,89E-12	0,00E+00	1,11E-12	-1,17E-10
Human tox. non-cancer	CTUh	4,31E-08	MND	1,95E-10	MND	MND	MND	MND	MND	MND	MND	MNR	1,39E-10	0,00E+00	6,61E-11	-3,43E-09
SQP ⁷⁾	-	3,00E+01	MND	5,29E-02	MND	MND	MND	MND	MND	MND	MND	MNR	9,55E-02	0,00E+00	2,22E-01	-2,73E+01

6) EN 15804+A2 disclaimer for Ionizing 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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	7,14E+00	MND	6,73E-03	MND	MND	MND	MND	MND	MND	MND	MNR	2,18E-03	0,00E+00	4,11E-04	-2,78E+00
Renew. PER as material	MJ	3,77E+00	MND	-3,77E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	3,77E+00
Total use of renew. PER	MJ	1,09E+01	MND	-3,76E+00	MND	MND	MND	MND	MND	MND	MND	MNR	2,18E-03	0,00E+00	4,11E-04	9,89E-01
Non-re. PER as energy	MJ	4,14E+01	MND	8,77E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,60E-01	0,00E+00	3,93E-02	-2,51E+00
Non-re. PER as material	MJ	2,27E+01	MND	-9,68E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	-2,26E+01	1,00E-01
Total use of non-re. PER	MJ	6,41E+01	MND	-9,12E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,60E-01	0,00E+00	-2,25E+01	-2,41E+00
Secondary materials	kg	2,14E-01	MND	1,24E-04	MND	MND	MND	MND	MND	MND	MND	MNR	6,46E-05	0,00E+00	1,40E-05	-2,02E-01
Renew. secondary fuels	MJ	5,33E-02	MND	6,05E-07	MND	MND	MND	MND	MND	MND	MND	MNR	8,85E-07	0,00E+00	5,09E-08	-1,45E-02
Non-ren. secondary fuels	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,10E-01	MND	3,88E-05	MND	MND	MND	MND	MND	MND	MND	MNR	2,05E-05	0,00E+00	2,81E-06	-2,62E-03

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	1,74E-01	MND	6,21E-04	MND	MND	MND	MND	MND	MND	MND	MNR	2,66E-04	0,00E+00	1,00E+00	-8,73E-03
Non-hazardous waste	kg	3,72E+00	MND	1,09E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,21E-03	0,00E+00	1,49E-03	-1,73E-01
Radioactive waste	kg	9,91E-05	MND	4,42E-07	MND	MND	MND	MND	MND	MND	MND	MNR	1,04E-06	0,00E+00	2,48E-07	-8,21E-06

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	MND	2,05E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	1,27E-01	MND	9,10E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	3,06E+00	MND	1,22E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,12E-02	0,00E+00	3,10E-03	-1,83E-01
Ozone depletion Pot.	kg CFC ₁₁ e	2,33E-07	MND	6,04E-10	MND	MND	MND	MND	MND	MND	MND	MNR	1,90E-09	0,00E+00	4,38E-10	-1,99E-08
Acidification	kg SO ₂ e	1,41E-02	MND	2,92E-05	MND	MND	MND	MND	MND	MND	MND	MNR	3,60E-05	0,00E+00	2,19E-05	-8,01E-04
Eutrophication	kg PO ₄ ³ e	6,80E-03	MND	5,56E-05	MND	MND	MND	MND	MND	MND	MND	MNR	8,47E-06	0,00E+00	5,57E-06	-6,10E-04
POCP (“smog”)	kg C ₂ H ₄ e	9,15E-04	MND	4,10E-06	MND	MND	MND	MND	MND	MND	MND	MNR	1,51E-06	0,00E+00	1,73E-06	-5,42E-05
ADP-elements	kg Sbe	2,56E-05	MND	8,22E-08	MND	MND	MND	MND	MND	MND	MND	MNR	4,97E-08	0,00E+00	1,75E-09	-8,60E-07
ADP-fossil	MJ	5,46E+01	MND	8,77E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,60E-01	0,00E+00	3,93E-02	-2,50E+00

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	2,56E-05	MND	8,22E-08	MND	MND	MND	MND	MND	MND	MND	MNR	4,97E-08	0,00E+00	1,75E-09	-8,60E-07
Hazardous waste disposed	kg	1,74E-01	MND	6,21E-04	MND	MND	MND	MND	MND	MND	MND	MNR	2,66E-04	0,00E+00	1,00E+00	-8,73E-03
Non-haz. waste disposed	kg	3,72E+00	MND	1,09E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,21E-03	0,00E+00	1,49E-03	-1,73E-01
Air pollution	m ³	9,49E+03	MND	3,41E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,74E+00	0,00E+00	1,17E+00	-4,27E+01
Water pollution	m ³	1,09E+01	MND	7,72E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,46E-02	0,00E+00	5,02E-03	-1,10E+00

ENVIRONMENTAL IMPACTS – BEPALINGSMETODE, NETHERLANDS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Shadow price	€	5,26E-01	MND	9,62E-03	MND	MND	MND	MND	MND	MND	MND	MNR	1,40E-03	0,00E+00	4,96E-04	-3,27E-02
Terrestrial ecotoxicity	DCB eq	1,31E-02	MND	1,91E-04	MND	MND	MND	MND	MND	MND	MND	MNR	3,10E-05	0,00E+00	4,69E-06	-2,35E-03
Seawater ecotoxicity	DCB eq	1,08E+03	MND	3,53E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,80E+00	0,00E+00	3,97E-01	MNR
Freshwater ecotoxicity	DCB eq	5,28E-02	MND	5,23E-04	MND	MND	MND	MND	MND	MND	MND	MNR	1,61E-04	0,00E+00	2,53E-05	-8,50E-03
Human ecotoxicity	DCB eq	1,55E+00	MND	8,88E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,63E-03	0,00E+00	1,73E-03	-1,17E-01
EEE	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ADP Fossil Fuels	kg Sbe	2,63E-02	MND	4,22E-05	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	-1,20E-03

VERIFICATION STATEMENT

VERIFICATION PROCESS FOR THIS EPD

This EPD has been verified in accordance with ISO 14025 by an independent, third-party verifier by reviewing results, documents and compliancy with reference standard, ISO 14025 and ISO 14040/14044, following the process and checklists of the program operator for:

- This Environmental Product Declaration
- The Life-Cycle Assessment used in this EPD
- The digital background data for this EPD

Why does verification transparency matter? [Read more online](#)

This EPD has been generated by One Click LCA EPD generator, which has been verified and approved by the EPD Hub.

THIRD-PARTY VERIFICATION STATEMENT

I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried out, the presentation of environmental data in the EPD, and other additional environmental information, as present with respect to the procedural and methodological requirements in ISO 14025:2010 and reference standard.

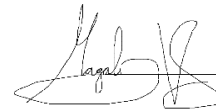
I confirm that the company-specific data has been examined as regards plausibility and consistency; the declaration owner is responsible for its factual integrity and legal compliance.

I confirm that I have sufficient knowledge and experience of construction products, this specific product category, the construction industry, relevant standards, and the geographical area of the EPD to carry out this verification.

I confirm my independence in my role as verifier; I have not been involved in the execution of the LCA or in the development of the declaration and have no conflicts of interest regarding this verification.

Magaly González Vázquez, as an authorized verifier acting for EPD Hub Limited

01.03.2024



ANNEX

ENVIRONMENTAL IMPACT DATA OF SELF-ADHESIVE TAPE FOR PROMASEAL-LX PRO

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025/ ISO 21930

This Annex includes the LCA results for the self-adhesive tape applied to the surface of PROMASEAL®LX Pro per declared unit of 1 kg. The amount of self-adhesive tape is 0.0379 kg/kg of PROMASEAL®LX Pro fire protection seal.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	2,21E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	4,07E-04	0,00E+00	1,27E-04	0,00E+00
GWP – fossil	kg CO ₂ e	2,21E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	4,06E-04	0,00E+00	1,27E-04	0,00E+00
GWP – biogenic	kg CO ₂ e	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO ₂ e	2,26E-05	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,91E-07	0,00E+00	1,50E-08	0,00E+00
Ozone depletion pot.	kg CFC ₁₁ e	1,75E-08	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	9,13E-11	0,00E+00	2,08E-11	0,00E+00
Acidification potential	mol H ⁺ e	1,16E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,62E-06	0,00E+00	1,14E-06	0,00E+00
EP-freshwater ²⁾	kg Pe	6,38E-06	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	3,31E-09	0,00E+00	1,50E-09	0,00E+00
EP-marine	kg Ne	2,16E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	4,65E-07	0,00E+00	4,44E-07	0,00E+00
EP-terrestrial	mol Ne	1,67E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,14E-06	0,00E+00	4,88E-06	0,00E+00
POCP (“smog”) ³⁾	kg NMVOCe	7,83E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,58E-06	0,00E+00	1,44E-06	0,00E+00
ADP-minerals & metals ⁴⁾	kg Sbe	3,57E-07	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,89E-09	0,00E+00	6,37E-11	0,00E+00
ADP-fossil resources	MJ	3,37E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,95E-03	0,00E+00	1,51E-03	0,00E+00
Water use ⁵⁾	m ³ e depr.	3,79E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	3,11E-05	0,00E+00	4,70E-06	0,00E+00

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, PEF

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	1,08E-08	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	3,02E-11	0,00E+00	2,87E-11	0,00E+00
Ionizing radiation ⁶⁾	kBq U235e	1,22E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	3,22E-05	0,00E+00	6,23E-06	0,00E+00
Ecotoxicity (freshwater)	CTUe	8,06E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,16E-03	0,00E+00	1,91E-03	0,00E+00
Human toxicity, cancer	CTUh	2,54E-11	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,81E-13	0,00E+00	4,20E-14	0,00E+00
Human tox. non-cancer	CTUh	7,13E-10	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,06E-12	0,00E+00	2,84E-12	0,00E+00
SQP ⁷⁾	-	1,27E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	3,58E-03	0,00E+00	8,46E-03	0,00E+00

6) EN 15804+A2 disclaimer for Ionizing 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-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	3,59E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,02E-04	0,00E+00	2,35E-05	0,00E+00
Renew. PER as material	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Total use of renew. PER	MJ	3,59E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,02E-04	0,00E+00	2,35E-05	0,00E+00
Non-re. PER as energy	MJ	2,55E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,96E-03	0,00E+00	1,51E-03	0,00E+00
Non-re. PER as material	MJ	9,46E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	-9,46E-01	0,00E+00
Total use of non-re. PER	MJ	3,49E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,96E-03	0,00E+00	-9,45E-01	0,00E+00
Secondary materials	kg	1,07E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	2,45E-06	0,00E+00	5,27E-07	0,00E+00
Renew. secondary fuels	MJ	1,04E-06	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	2,82E-08	0,00E+00	1,97E-09	0,00E+00
Non-ren. secondary fuels	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	8,92E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	8,37E-07	0,00E+00	1,07E-07	0,00E+00

8) PER = Primary energy resources.

END OF LIFE – WASTE

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Hazardous waste	kg	3,35E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	7,75E-06	0,00E+00	3,79E-02	0,00E+00
Non-hazardous waste	kg	2,83E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,40E-04	0,00E+00	6,07E-05	0,00E+00
Radioactive waste	kg	1,10E-06	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	4,06E-08	0,00E+00	9,25E-09	0,00E+00

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy rec	kg	2,27E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00

ENVIRONMENTAL IMPACTS – EN 15804+A1, CML / ISO 21930

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	2,11E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	4,02E-04	0,00E+00	1,22E-04	0,00E+00
Ozone depletion Pot.	kg CFC ₁₁ e	1,22E-08	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	7,24E-11	0,00E+00	1,65E-11	0,00E+00
Acidification	kg SO ₂ e	9,96E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,26E-06	0,00E+00	8,37E-07	0,00E+00
Eutrophication	kg PO ₄ ³ e	1,29E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	2,97E-07	0,00E+00	1,99E-07	0,00E+00
POCP ("smog")	kg C ₂ H ₄ e	4,80E-05	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,32E-08	0,00E+00	7,56E-08	0,00E+00
ADP-elements	kg Sbe	3,40E-07	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,85E-09	0,00E+00	6,27E-11	0,00E+00
ADP-fossil	MJ	3,37E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,95E-03	0,00E+00	1,51E-03	0,00E+00

ENVIRONMENTAL IMPACTS – FRENCH NATIONAL COMPLEMENTS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADP-elements	kg Sbe	3,40E-07	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,85E-09	0,00E+00	6,27E-11	0,00E+00
Hazardous waste disposed	kg	3,35E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	7,75E-06	0,00E+00	3,79E-02	0,00E+00
Non-haz. waste disposed	kg	2,83E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,40E-04	0,00E+00	6,07E-05	0,00E+00
Air pollution	m ³	1,69E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,23E-02	0,00E+00	5,22E-02	0,00E+00
Water pollution	m ³	1,00E-01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	6,45E-04	0,00E+00	1,06E-04	0,00E+00

ENVIRONMENTAL IMPACTS – BEPALINGSMETODE, NETHERLANDS

Impact category	Unit	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Shadow price	€	1,74E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	4,89E-05	0,00E+00	1,98E-05	0,00E+00
Terrestrial ecotoxicity	DCB eq	8,42E-05	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,15E-06	0,00E+00	1,88E-07	0,00E+00
Seawater ecotoxicity	DCB eq	1,47E+01	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,45E-02	0,00E+00	1,79E-02	MNR
Freshwater ecotoxicity	DCB eq	3,31E-04	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	5,94E-06	0,00E+00	9,66E-07	0,00E+00
Human ecotoxicity	DCB eq	1,29E-02	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	1,65E-04	0,00E+00	7,16E-05	0,00E+00
EEE	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ETE	MJ	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
ADP Fossil Fuels	kg Sbe	1,48E-03	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00