



ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025

Tyrexol™ MMA

Reciclado de neumáticos de Castilla y León SL



EPD HUB, HUB-3808

Published on 14.08.2025, last updated on 14.08.2025, valid until 14.08.2030



Created with One Click LCA



GENERAL INFORMATION

MANUFACTURER

Manufacturer	Reciclado de neumáticos de Castilla y León SL
Address	Avda. Explosivos nº 25 y no s/n 34880- - Guardo (Palencia)
Contact details	luis.fernandez@renecal.es
Website	https://renecal.es/

EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2 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 modules C1-C4, D
EPD author	Celia Sanchez San Cristobal
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☒ External verification
EPD verifier	Imane Uald Lamkaddam as an authorized verifier for EPD Hub

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	Tyrexol™ MMA
Additional labels	-
Product reference	-
Place(s) of raw material origin	Spain
Place of production	Guardo, Palencia, Spain
Place(s) of installation and use	Guardo, Palencia, Spain
Period for data	2024
Averaging in EPD	No grouping
Variation in GWP-fossil for A1-A3 (%)	-
A1-A3 Specific data (%)	27

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 ton Tyrexol™ MMA
Declared unit mass	1000 kg
GWP-fossil, A1-A3 (kgCO ₂ e)	1,57E+01
GWP-total, A1-A3 (kgCO ₂ e)	-1,06E+03
Secondary material, inputs (%)	98,8
Secondary material, outputs (%)	80,5
Total energy use, A1-A3 (kWh)	78,5
Net freshwater use, A1-A3 (m ³)	0,25

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

A leading company in the treatment, management, processing, obtaining, storage, and transportation of rubber granules and powder, textile fibers, and steel wire from end-of-life tires.

Consolidated presence in Spain and international markets through the sale and export of rubber for use in various applications: sports courts, footwear and clothing, safety flooring in playgrounds, acoustic insulation, modified asphalt bitumen, and others.

Collaborating company with the SIGNUS Comprehensive Tire Management System.

PRODUCT DESCRIPTION

TyreXol™ MMA 30 is a powdered rubber additive manufactured from the mechanical grinding at ambient temperature of end-of-life passenger and truck tires (NFVU's).

Its classification according to the ASTM D5603-01 standard is Class 30-1. The rubber powder has been surface pre-treated to obtain the TyreXol™ MMA 30 rubber additive, specially designed to facilitate its specific use in asphalt binders and bituminous mixtures.

Further information can be found at:
<https://renecal.es/>

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	-
Minerals	-	-
Fossil materials	67,75%	Spain
Bio-based materials	32,59%	Spain

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	616,3636
Biogenic carbon content in packaging, kg C	5

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 ton Tyrexol™ MMA
Mass per declared unit	1000 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	Recycling	Recovery	Reuse
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction/ demolition	Transport	Waste processing	Disposal				

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.

A market-based approach is used in modelling the electricity mix utilized in the factory.

Recycling of Castilla y León Tires SL is the leading company in the treatment, management, processing, obtaining, storage and transportation of granulated and powdered rubber, textile fibers and steel wire from used tires.

It carries out a production process with the following stages:

STEP 0: Rubber powder on silo A

STEP 1: Transferring rubber powder to silo B by pneumatic transport

STEP 2: Transferring rubber powder to mixer by screw conveyor

STEP 3: Transferring additive from IBC and water from tank to agitator by mechanical pumps

STEP 4: Mixing additive & water in tank agitator by stirrer

STEP 5: Transferring mixture of additive & water to mixer by pneumatic pump

STEP 6: Mixing rubber powder and mixture of additive & water into the mixer, then TyreXol MMA 30 is obtained

STEP 7: Discharging TyreXol MMA 30 to intermediate silo

STEP 8: Transferring Tyrexol MMA 30 to silo C by screw conveyor and pneumatic transport

STEP 9: Transferring Tyrexol MMA 30 to big bag by screw conveyor or big silo

The use of green energy in manufacturing is demonstrated through contractual instruments (GOs, RECs, etc.), and its use is ensured throughout the validity period of this EPD.

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.

The transportation distance is defined according to the suppliers of each material and the points of sale of the product. The most common method of transportation is by truck, however, there are raw materials that are brought by sea or train. In reality, it may vary, but since the role of transport emissions in the overall results is small, the variation in freight is assumed to be negligible.

correctly packaged

PRODUCT USE AND MAINTENANCE (B1-B7)

This EPD does not cover the use phase.

Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

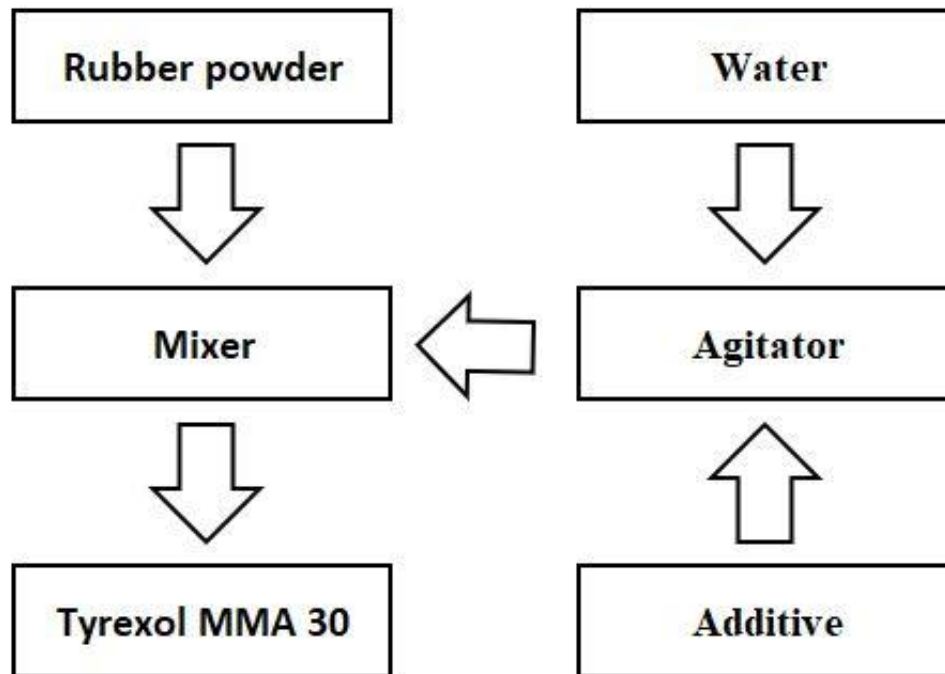
At the end of its useful life, the data from ASEFMA is considered for the asphalt mixtures. The waste scenario considered establishes that:

53.5% of the weight is processed in the plant to obtain secondary material for the manufacture of new mixtures.

27.0% of the weight is used as aggregate or similar.

19.5% of the weight of the removed product is sent to landfill disposal. Therefore, at the waste treatment plant, the waste that can be reused, recycled or recovered for energy is separated and diverted for further use. Unusable materials are disposed of in a landfill. Due to the recycling potential of steel and wood, they can be used as secondary raw materials and energy, respectively.

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.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy and water use related to company management and sales activities are excluded.

To facilitate modeling and due to the lack of precision in the available modeling resources, many components less than 0.1% of the product mass are excluded. These include some pollutants from the emissions produced into the atmosphere because they are present in the emissions but in very small quantities and do not have a serious impact, their quantity being insignificant.

Excluded are the production of capital goods, construction and infrastructure activities, maintenance and operation of capital goods, activities related to personnel, energy and water use related to the administration and sales activities of the company.

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/AC:2021 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	No allocation
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

PRODUCT & MANUFACTURING SITES GROUPING

Type of grouping	No grouping
Grouping method	Not applicable
Variation in GWP-fossil for A1-A3, %	

This EPD is product and factory specific.

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. The EPD Generator uses Ecoinvent v3.10.1 and One Click LCA databases as sources of environmental data. Allocation used in Ecoinvent 3.10.1 environmental data sources follow the methodology 'allocation, Cut-off, EN 15804+A2'.

ENVIRONMENTAL IMPACT DATA

The estimated impact results are only relative statements which do not indicate the end points of the impact categories, exceeding threshold values, safety margins or risks.

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total ¹⁾	kg CO ₂ e	-1,04E+03	1,99E+00	-1,40E+01	-1,06E+03	MND	2,12E+01	MND	MND	MND	MND	MND	MND	MND	7,21E-01	9,68E+00	8,48E+02	2,09E+02	-2,83E+00
GWP – fossil	kg CO ₂ e	9,44E+00	1,99E+00	4,27E+00	1,57E+01	MND	2,90E+00	MND	MND	MND	MND	MND	MND	MND	7,21E-01	9,67E+00	1,99E-01	3,41E+00	-4,36E+00
GWP – biogenic	kg CO ₂ e	-1,05E+03	2,75E-04	-1,83E+01	-1,07E+03	MND	1,83E+01	MND	MND	MND	MND	MND	MND	MND	7,36E-05	1,92E-03	8,47E+02	2,05E+02	1,53E+00
GWP – LULUC	kg CO ₂ e	1,43E-05	7,68E-04	2,38E-02	2,46E-02	MND	7,50E-04	MND	MND	MND	MND	MND	MND	MND	7,39E-05	3,42E-03	5,88E-04	1,63E-03	-4,79E-03
Ozone depletion pot.	kg CFC-11e	3,12E-11	3,76E-08	1,16E-07	1,53E-07	MND	8,35E-09	MND	MND	MND	MND	MND	MND	MND	1,10E-08	1,92E-07	3,33E-09	5,77E-08	-1,15E-07
Acidification potential	mol H ⁺ e	2,18E-02	1,55E-02	2,19E-02	5,93E-02	MND	3,00E-03	MND	MND	MND	MND	MND	MND	MND	6,51E-03	3,02E-02	1,00E-03	1,64E-02	-2,16E-02
EP-freshwater ²⁾	kg Pe	1,39E-04	1,19E-04	1,42E-03	1,68E-03	MND	1,34E-04	MND	MND	MND	MND	MND	MND	MND	2,08E-05	6,41E-04	1,70E-04	2,44E-04	-1,88E-03
EP-marine	kg Ne	4,96E-03	4,32E-03	5,99E-03	1,53E-02	MND	2,99E-03	MND	MND	MND	MND	MND	MND	MND	3,02E-03	1,02E-02	1,76E-04	2,36E-02	-3,45E-03
EP-terrestrial	mol Ne	5,40E-02	4,75E-02	6,48E-02	1,66E-01	MND	1,23E-02	MND	MND	MND	MND	MND	MND	MND	3,31E-02	1,11E-01	1,55E-03	6,47E-02	-3,50E-02
POCP (“smog”) ³⁾	kg NMVOCe	2,37E-02	1,58E-02	2,94E-02	6,90E-02	MND	3,95E-03	MND	MND	MND	MND	MND	MND	MND	9,86E-03	4,74E-02	5,25E-04	2,26E-02	-1,78E-02
ADP-minerals & metals ⁴⁾	kg Sbe	9,55E-08	5,68E-06	2,63E-05	3,21E-05	MND	1,78E-06	MND	MND	MND	MND	MND	MND	MND	2,59E-07	3,16E-05	4,80E-07	5,23E-06	-1,80E-05
ADP-fossil resources	MJ	2,67E+02	2,73E+01	9,72E+01	3,91E+02	MND	7,20E+00	MND	MND	MND	MND	MND	MND	MND	9,43E+00	1,36E+02	4,56E+00	4,96E+01	-9,96E+01
Water use ⁵⁾	m ³ e depr.	9,36E-04	1,25E-01	2,57E+00	2,70E+00	MND	2,39E-01	MND	MND	MND	MND	MND	MND	MND	2,36E-02	6,67E-01	1,17E-01	3,12E-01	-1,26E+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, EF 3.1

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2,17E-07	1,39E-07	3,33E-07	6,89E-07	MND	4,98E-08	MND	MND	MND	MND	MND	MND	MND	1,85E-07	7,60E-07	4,54E-09	3,58E-07	-1,77E-07
Ionizing radiation ⁶⁾	kBq 11235a	6,27E-01	3,12E-02	1,28E+00	1,94E+00	MND	2,02E-02	MND	MND	MND	MND	MND	MND	MND	4,18E-03	1,73E-01	1,24E-01	5,02E-02	-9,07E-01
Ecotoxicity (freshwater)	CTUe	4,68E+01	3,33E+00	1,81E+01	6,82E+01	MND	3,12E+00	MND	MND	MND	MND	MND	MND	MND	5,19E-01	1,78E+01	5,07E-01	6,61E+00	-8,95E+00
Human toxicity, cancer	CTUh	8,09E-10	3,53E-10	1,79E-08	1,90E-08	MND	3,45E-10	MND	MND	MND	MND	MND	MND	MND	7,41E-11	1,65E-09	7,30E-11	5,19E-10	-8,74E-10
Human tox. non-cancer	CTUh	2,37E-08	1,54E-08	4,73E-08	8,64E-08	MND	1,66E-08	MND	MND	MND	MND	MND	MND	MND	1,17E-09	8,53E-08	3,41E-09	1,32E-08	-3,53E-08
SQP ⁷⁾	-	5,24E+00	1,40E+01	1,47E+03	1,49E+03	MND	7,01E+00	MND	MND	MND	MND	MND	MND	MND	6,61E-01	8,08E+01	7,84E-01	1,14E+02	-1,94E+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	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Renew. PER as energy ⁸⁾	MJ	1,21E+01	4,29E-01	1,19E+02	1,32E+02	MND	-1,87E+02	MND	MND	MND	MND	MND	MND	MND	5,97E-02	2,35E+00	1,04E+00	7,93E-01	3,09E+01
Renew. PER as material	MJ	8,71E+03	0,00E+00	1,60E+02	8,87E+03	MND	-1,60E+02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-7,01E+03	-1,70E+03	1,06E+01
Total use of renew. PER	MJ	8,72E+03	4,29E-01	2,80E+02	9,00E+03	MND	-3,48E+02	MND	MND	MND	MND	MND	MND	MND	5,97E-02	2,35E+00	-7,01E+03	-1,70E+03	4,15E+01
Non-re. PER as energy	MJ	1,27E+02	2,73E+01	-8,69E+00	1,46E+02	MND	-7,26E+01	MND	MND	MND	MND	MND	MND	MND	9,43E+00	1,36E+02	4,56E+00	-3,58E+02	-9,96E+01
Non-re. PER as material	MJ	1,76E+04	0,00E+00	9,42E+01	1,77E+04	MND	-9,42E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-1,42E+04	-3,44E+03	3,69E+01
Total use of non-re. PER	MJ	1,78E+04	2,73E+01	8,55E+01	1,79E+04	MND	-1,67E+02	MND	MND	MND	MND	MND	MND	MND	9,43E+00	1,36E+02	-1,42E+04	-3,79E+03	-6,27E+01
Secondary materials	kg	9,88E+02	1,26E-02	2,63E+00	9,90E+02	MND	7,25E-03	MND	MND	MND	MND	MND	MND	MND	3,92E-03	6,22E-02	2,81E-03	1,83E-02	8,21E-01
Renew. secondary fuels	MJ	2,47E-04	1,37E-04	5,41E+00	5,41E+00	MND	6,69E-05	MND	MND	MND	MND	MND	MND	MND	1,02E-05	7,85E-04	3,05E-06	3,35E-04	-9,63E-05
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m ³	1,81E-01	3,38E-03	6,16E-02	2,46E-01	MND	-1,71E-02	MND	MND	MND	MND	MND	MND	MND	6,23E-04	1,83E-02	3,73E-03	-7,22E-01	-4,35E-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	C3	C4	D
Hazardous waste	kg	3,74E-01	3,86E-02	2,84E-01	6,97E-01	MND	6,65E-02	MND	MND	MND	MND	MND	MND	MND	1,05E-02	1,95E-01	1,23E-02	1,01E-01	-2,49E-01
Non-hazardous waste	kg	1,49E+01	7,71E-01	9,66E+00	2,54E+01	MND	3,16E+01	MND	MND	MND	MND	MND	MND	MND	1,43E-01	4,11E+00	8,42E-01	9,73E+02	-2,44E+01
Radioactive waste	kg	4,33E-04	7,74E-06	3,12E-04	7,53E-04	MND	5,06E-06	MND	MND	MND	MND	MND	MND	MND	1,02E-06	4,30E-05	3,18E-05	1,23E-05	-2,33E-04

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	2,70E+02	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	1,92E-05	1,92E-05	MND	4,87E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	5,35E+02	0,00E+00	0,00E+00
Materials for energy rec	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00	MND	0,00E+00	MND	MND	MND	MND	MND	MND	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	MND	3,20E+01	MND	MND	MND	MND	MND	MND	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	MND	1,35E+01	MND	MND	MND	MND	MND	MND	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	MND	1,85E+01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00

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

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO ₂ e	9,03E+00	1,97E+00	4,31E+00	1,53E+01	MND	3,18E+00	MND	MND	MND	MND	MND	MND	MND	7,17E-01	9,61E+00	1,99E-01	3,35E+00	-4,31E+00
Ozone depletion Pot.	kg CFC-11e	2,66E-11	2,99E-08	9,42E-08	1,24E-07	MND	6,74E-09	MND	MND	MND	MND	MND	MND	MND	8,75E-09	1,53E-07	2,73E-09	4,61E-08	-9,39E-08
Acidification	kg SO ₂ e	1,83E-02	1,22E-02	1,71E-02	4,76E-02	MND	2,22E-03	MND	MND	MND	MND	MND	MND	MND	4,58E-03	2,30E-02	8,48E-04	1,23E-02	-1,82E-02
Eutrophication	kg PO ₄ ³ e	5,53E-03	1,90E-03	1,39E-01	1,47E-01	MND	7,83E-04	MND	MND	MND	MND	MND	MND	MND	1,07E-03	5,84E-03	1,18E-04	5,63E-03	-4,20E-03
POCP (“smog”)	kg C ₂ H ₄ e	2,20E-03	7,82E-04	2,57E-03	5,55E-03	MND	2,48E-04	MND	MND	MND	MND	MND	MND	MND	3,43E-04	2,19E-03	5,08E-05	1,17E-03	-1,47E-03
ADP-elements	kg Sbe	9,49E-08	5,56E-06	2,58E-05	3,15E-05	MND	1,71E-06	MND	MND	MND	MND	MND	MND	MND	2,51E-07	3,09E-05	4,76E-07	5,08E-06	-1,78E-05
ADP-fossil	MJ	2,67E+02	2,67E+01	7,53E+01	3,69E+02	MND	6,86E+00	MND	MND	MND	MND	MND	MND	MND	9,36E+00	1,33E+02	2,38E+00	4,88E+01	-8,37E+01

ADDITIONAL INDICATOR – GWP-GHG

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-GHG ⁹⁾	kg CO ₂ e	9,44E+00	1,99E+00	4,29E+00	1,57E+01	MND	2,90E+00	MND	MND	MND	MND	MND	MND	MND	7,21E-01	9,67E+00	1,99E-01	3,41E+00	-4,37E+00

9) This indicator includes all greenhouse gases excluding biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. In addition, the characterisation factors for the flows – CH₄ fossil, CH₄ biogenic and Dinitrogen monoxide – were updated. This indicator is identical to the GWP-total of EN 15804:2012+A2:2019 except that the characterisation factor for biogenic CO₂ is set to zero.

THIRD-PARTY 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.

Imane Uald Lamkaddam as an authorized verifier for EPD Hub Limited
14.08.2025

