



ENVIRONMENTAL PRODUCT DECLARATION

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

FBY-EL-F co2ntrol® 20

FRÄNKISCHE Rohrwerke Gebr. Kirchner GmbH & Co. KG



EPD HUB, HUB-2420

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Created with One Click LCA

FRÄNKISCHE

GENERAL INFORMATION

MANUFACTURER

Manufacturer	FRÄNKISCHE Rohrwerke Gebr. Kirchner GmbH & Co. KG
Address	Hellinger Str. 1, 97486 Königsberg in Bayern, Germany
Contact details	info@fraenkische.de
Website	www.fraenkische.de

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	Andreas Ziegmann
EPD verification	Independent verification of this EPD and data, according to ISO 14025: <input type="checkbox"/> Internal verification <input checked="" type="checkbox"/> External verification
EPD verifier	Imane Uald Iamkaddam, as an authorized verifier acting for EPD Hub Limited

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	FBY-EL-F co2ntrol 20
Additional labels	
Product reference	26212020
Place of production	Königsberg in Bayern, Germany
Period for data	01.01.2023 - 31.12.2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	%

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 m
Declared unit mass	0.048 kg
GWP-fossil, A1-A3 (kgCO₂e)	7,33E-02
GWP-total, A1-A3 (kgCO₂e)	7,16E-02
Secondary material, inputs (%)	61.2
Secondary material, outputs (%)	57.5
Total energy use, A1-A3 (kWh)	0.31
Net freshwater use, A1-A3 (m³)	0

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

FRÄNKISCHE Rohrwerke Gebr. Kirchner GmbH & Co. KG, a wholly-owned subsidiary of FRÄNKISCHE Group SE, is among the world's leading suppliers of pipe systems. The family-owned enterprise, founded in 1906 and headquartered in Königsberg, Germany, specialises in developing and producing high-quality pipes, accessories, and system components for electrical installation and drainage, plumbing and heating installation, heat recovery ventilation, and stormwater management. Three key historical inventions form the basis for the company's success and its diverse product and solution portfolio: the world's first flexible corrugated metal conduit, which revolutionised electrical installation (1952), the world's first continuously extruded flexible plastic electrical conduit (1959), and the world's first corrugated and continuously produced plastic drainage pipe (1961). FRÄNKISCHE Rohrwerke currently employs around 1,400 people and operates production sites and sales facilities in Germany, as well as branches across Europe. For more information, please refer to www.fraenkische.com.

PRODUCT DESCRIPTION

FBY-EL-F co2ntrol is a light-duty CO₂-reduced corrugated plastic conduit with low-friction inner surface made of polyolefin, non-flame propagating, available in black. This corrugated plastic conduit is used for concealed and cavity wall installations and for installation in floor screed. The advantage is the low-friction inner surface of types 20 and 25. This allows the easy insertion of cables and wires over long distances. A certain proportion of regenerates (polyolefins) is used as input material for these plastic conduits. The CO₂-reduced product line includes the products FBY-EL-F co2ntrol, FFKuS-EM-F-105 co2ntrol, Kabuflex R plus 450 co2ntrol and Kabuflex R plus 750 co2ntrol.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	-	
Minerals	-	
Fossil materials	100	EU
Bio-based materials	-	

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	0.000488

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 m
Mass per declared unit	0.048 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	x	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	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 production of FBY-EL-F co2ntrol consists of the following process steps:

- Melting of the plastic components and their additives in extruders
- Shaping through a continuous extrusion process in specially manufactured corrugator moulds
- Cooling of the corrugated plastic tubes
- Winding of the corrugated plastic tubes via coilers and packaging of the rings in polyethylene (PE) film or polypropylene (PP) packaging tape
- Packaging the rings on pallets using a PE film

The production process is certified according to the quality management system according to /DIN EN ISO 9001.

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 average distance of transportation from the production plant to the installation site is based on the actual sales weighted average figures of the company in the local markets. The transportation is performed by truck.

Environmental impacts from installation into the building (A5) include emissions of energy use in installation and the packaging waste. There is no product installation loss due to couplings.

PRODUCT USE AND MAINTENANCE (B1-B7)

The reference service life is at least 50 years, analogous to the service life of the house. There is no indication that FBY-EL-F co2ntrol has a shorter service life than the building itself. This reflects the high ageing resistance of the product when used as intended. The reference service life is not relevant due to the exclusion of Module B.

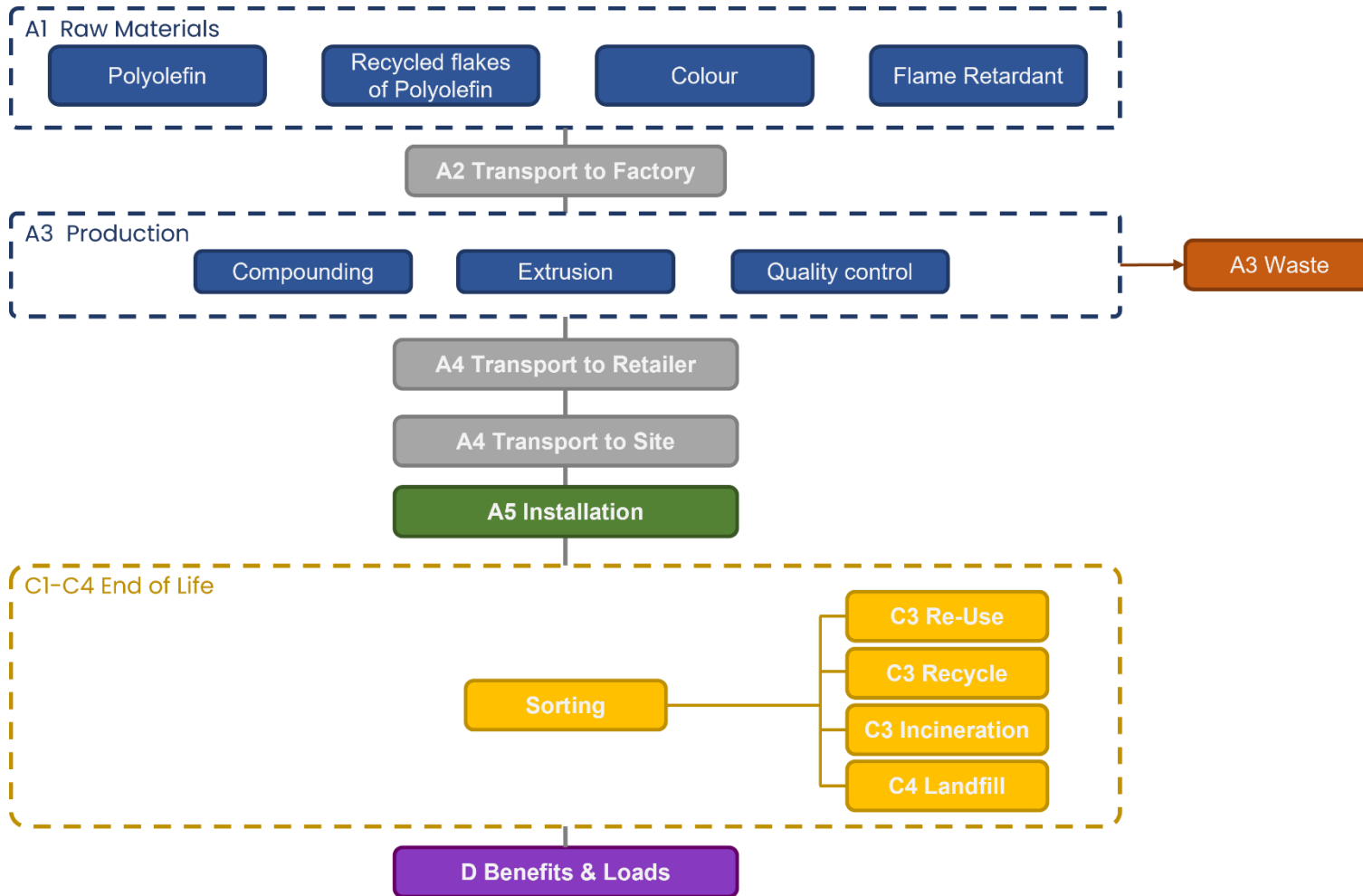
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

As FBY-EL-F co2ntrol is usually installed in the wall or under the floor screed, it is not intended to be reused or recycled. As a rule, once a house has been demolished, the construction waste is separated, and the plastic components are sent for recycling and thermal utilisation. At the end of FBY-EL-F co2ntrol life cycle, it can be recycled and incinerated with energy recovery. Due to the high calorific value of polyolefins, the energy bound in the conduits can be utilised in waste incineration plants with energy recovery.

Since the consumption of energy and natural resources is negligible for disassembling of the end-of-life product, the impacts of demolition are assumed zero (C1). It is assumed that the end-of-life product is transported by lorry to the nearest recycling plant, which is estimated to be 50 km away from the building (C2). Further assumptions are that 32.5 % of the end-of-life product is recycled, 42.5 % is incinerated for energy recovery (C3) and the remaining 25.0 % is disposed of in a landfill (C4) (according to EuroParl 2023). The product is then processed into recycled polyolefin granulate (D). In addition, Module D considers the benefits and impacts of packaging waste in phase A5.

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.

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	No allocation
Ancillary materials	No allocation
Manufacturing energy and waste	No allocation

AVERAGES AND VARIABILITY

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

This EPD is product and factory specific and does not contain average calculations.

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 v3.8, Plastics Europe, Federal LCA Commons and One Click LCA databases as sources of environmental data.

ENVIRONMENTAL IMPACT DATA

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP – total¹⁾	kg CO₂e	5,19E-02	9,75E-04	1,88E-02	7,16E-02	1,89E-03	1,25E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,10E-04	6,44E-02	1,78E-03	-9,30E-02
GWP – fossil	kg CO₂e	5,18E-02	9,75E-04	2,05E-02	7,33E-02	1,89E-03	1,07E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,10E-04	6,44E-02	1,78E-03	-9,33E-02
GWP – biogenic	kg CO₂e	0,00E+00	0,00E+00	-1,79E-03	-1,79E-03	0,00E+00	1,79E-03	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	3,58E-04
GWP – LULUC	kg CO₂e	2,62E-05	3,78E-07	3,00E-05	5,67E-05	8,66E-07	1,15E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,72E-07	1,81E-06	1,34E-07	-5,62E-05
Ozone depletion pot.	kg CFC-11e	3,38E-09	2,29E-10	6,68E-10	4,28E-09	4,25E-10	2,41E-10	MND	MND	MND	MND	MND	MND	MND	MNR	8,84E-11	1,04E-10	3,85E-11	-3,59E-09
Acidification potential	mol H⁺e	3,27E-04	3,20E-06	8,64E-05	4,17E-04	6,04E-06	2,14E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,21E-06	1,24E-05	1,10E-06	-5,12E-04
EP-freshwater²⁾	kg Pe	3,71E-06	8,25E-09	2,70E-06	6,42E-06	1,75E-08	1,35E-06	MND	MND	MND	MND	MND	MND	MND	MNR	3,48E-09	4,12E-08	2,11E-09	-5,37E-06
EP-marine	kg Ne	6,65E-05	7,10E-07	1,41E-05	8,13E-05	1,26E-06	4,51E-06	MND	MND	MND	MND	MND	MND	MND	MNR	2,41E-07	5,07E-06	6,76E-07	-6,74E-05
EP-terrestrial	mol Ne	7,95E-04	7,88E-06	1,58E-04	9,61E-04	1,40E-05	5,30E-05	MND	MND	MND	MND	MND	MND	MND	MNR	2,68E-06	5,44E-05	4,05E-06	-7,72E-04
POCP (“smog”)³⁾	kg NMVOC	2,42E-04	3,03E-06	4,49E-05	2,90E-04	5,39E-06	1,32E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,00E-06	1,40E-05	1,56E-06	-2,70E-04
ADP-minerals & metals⁴⁾	kg Sbe	5,63E-04	2,37E-09	6,18E-07	5,64E-04	6,63E-09	1,87E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,45E-09	1,75E-08	4,37E-10	-2,87E-07
ADP-fossil resources	MJ	1,42E+00	1,53E-02	3,14E-01	1,75E+00	2,88E-02	1,21E-01	MND	MND	MND	MND	MND	MND	MND	MNR	5,94E-03	1,36E-02	2,96E-03	-2,18E+00
Water use⁵⁾	m³e depr.	6,27E-02	6,81E-05	6,55E-03	6,93E-02	1,38E-04	1,95E-03	MND	MND	MND	MND	MND	MND	MND	MNR	2,63E-05	2,13E-03	1,78E-05	-3,23E-02

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	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	2,72E-09	1,11E-10	5,16E-10	3,34E-09	1,85E-10	9,81E-11	MND	MND	MND	MND	MND	MND	MND	MNR	3,26E-11	1,53E-10	2,18E-11	-3,83E-09
Ionizing radiation ⁶⁾	kBq U235e	3,78E-03	7,30E-05	3,94E-03	7,79E-03	1,37E-04	1,58E-03	MND	MND	MND	MND	MND	MND	MND	MNR	2,78E-05	9,55E-05	1,43E-05	-1,73E-02
Ecotoxicity (freshwater)	CTUe	5,71E+00	1,36E-02	4,52E-01	6,17E+00	2,69E-02	8,07E-02	MND	MND	MND	MND	MND	MND	MND	MNR	5,45E-03	3,83E-02	3,17E-03	-1,06E+00
Human toxicity, cancer	CTUh	4,15E-11	3,32E-13	1,99E-11	6,17E-11	7,47E-13	2,89E-12	MND	MND	MND	MND	MND	MND	MND	MNR	1,53E-13	5,77E-12	9,71E-14	-2,72E-11
Human tox. non-cancer	CTUh	1,76E-09	1,31E-11	5,37E-10	2,31E-09	2,48E-11	1,01E-10	MND	MND	MND	MND	MND	MND	MND	MNR	4,94E-12	1,12E-10	1,87E-12	-8,21E-10
SQP ⁷⁾	-	1,14E-01	1,75E-02	2,84E-01	4,16E-01	2,79E-02	1,81E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,16E-03	1,69E-02	7,12E-03	-3,01E-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	3,57E-02	1,72E-04	5,85E-02	9,43E-02	3,66E-04	1,82E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,06E-05	1,07E-03	5,51E-05	-1,52E-01
Renew. PER as material	MJ	0,00E+00	0,00E+00	1,57E-02	1,57E-02	0,00E+00	-1,57E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	1,82E-06
Total use of renew. PER	MJ	3,57E-02	1,72E-04	7,42E-02	1,10E-01	3,66E-04	2,46E-03	MND	MND	MND	MND	MND	MND	MND	MNR	7,06E-05	1,07E-03	5,51E-05	-1,52E-01
Non-re. PER as energy	MJ	7,07E-01	1,53E-02	2,90E-01	1,01E+00	2,88E-02	1,21E-01	MND	MND	MND	MND	MND	MND	MND	MNR	5,94E-03	1,36E-02	2,96E-03	-1,36E+00
Non-re. PER as material	MJ	7,13E-01	0,00E+00	4,01E-02	7,53E-01	0,00E+00	-4,01E-02	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	-5,20E-01	-1,92E-01	8,68E-01
Total use of non-re. PER	MJ	1,42E+00	1,53E-02	3,30E-01	1,77E+00	2,88E-02	8,09E-02	MND	MND	MND	MND	MND	MND	MND	MNR	5,94E-03	-5,07E-01	-1,89E-01	-4,90E-01
Secondary materials	kg	2,94E-02	4,23E-06	1,14E-03	3,05E-02	9,83E-06	1,58E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,98E-06	6,12E-05	1,05E-06	2,16E-02
Renew. secondary fuels	MJ	2,47E-06	4,27E-08	4,32E-04	4,35E-04	1,16E-07	1,24E-07	MND	MND	MND	MND	MND	MND	MND	MNR	2,57E-08	4,69E-07	4,06E-08	-3,64E-07
Non-ren. secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	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	1,52E-03	1,97E-06	1,79E-04	1,70E-03	3,83E-06	5,17E-05	MND	MND	MND	MND	MND	MND	MND	MNR	7,08E-07	1,41E-05	3,16E-06	-1,10E-03

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	2,41E-03	2,01E-05	1,83E-03	4,26E-03	4,31E-05	6,55E-04	MND	MND	MND	MND	MND	MND	MND	MNR	8,60E-06	1,70E-04	0,00E+00	-5,04E-03
Non-hazardous waste	kg	2,63E-01	3,30E-04	1,24E-01	3,87E-01	6,96E-04	6,43E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,37E-04	2,29E-02	1,20E-02	-2,86E-01
Radioactive waste	kg	1,47E-06	1,03E-07	1,20E-06	2,78E-06	1,91E-07	4,92E-07	MND	MND	MND	MND	MND	MND	MND	MNR	3,95E-08	3,58E-08	0,00E+00	-5,46E-06

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	0,00E+00	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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,32E-04	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	1,58E-02	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	6,21E-04	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	2,04E-02	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	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	3,30E-01	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	4,98E-02	9,65E-04	2,03E-02	7,11E-02	1,87E-03	1,07E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,06E-04	6,43E-02	1,45E-03	-9,00E-02
Ozone depletion Pot.	kg CFC ₁₁ e	3,02E-09	1,81E-10	5,81E-10	3,78E-09	3,37E-10	2,10E-10	MND	MND	MND	MND	MND	MND	MND	MNR	7,01E-11	9,02E-11	3,06E-11	-3,02E-09
Acidification	kg SO ₂ e	2,61E-04	2,59E-06	7,17E-05	3,35E-04	4,93E-06	1,71E-05	MND	MND	MND	MND	MND	MND	MND	MNR	9,90E-07	9,02E-06	8,32E-07	-4,35E-04
Eutrophication	kg PO ₄ ³ e	2,24E-04	5,67E-07	1,00E-04	3,24E-04	1,11E-06	5,22E-05	MND	MND	MND	MND	MND	MND	MND	MNR	2,18E-07	1,38E-05	6,70E-05	-1,92E-04
POCP (“smog”)	kg C ₂ H ₄ e	1,66E-05	1,19E-07	3,95E-06	2,07E-05	2,35E-07	8,55E-07	MND	MND	MND	MND	MND	MND	MND	MNR	4,91E-08	3,59E-07	2,62E-07	-2,50E-05
ADP-elements	kg Sbe	5,72E-04	2,30E-09	6,17E-07	5,73E-04	6,47E-09	1,83E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,42E-09	1,71E-08	4,22E-10	-2,87E-07
ADP-fossil	MJ	1,42E+00	1,53E-02	3,14E-01	1,75E+00	2,88E-02	1,21E-01	MND	MND	MND	MND	MND	MND	MND	MNR	5,94E-03	1,36E-02	2,96E-03	-2,18E+00

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 acting for EPD Hub Limited
13.12.2024



ANNEX

GWP TOTAL FOR A1-A3 STAGES PER AVAILABLE DIMENSION

Product number	Product description	Coil length (m)	Coil weight (kg)	Global Warming Potential total for A1-A3 stages (kg CO2e)	Scaling factor
26212016	FBY-EL-F co2ntrol 16	100	3,9	5,38E-02	0,75
26212020	FBY-EL-F co2ntrol 20	100	4,8	7,16E-02	1,00
26212025	FBY-EL-F co2ntrol 25	50	3,4	9,86E-02	1,38
26212032	FBY-EL-F co2ntrol 32	50	4,8	1,35E-01	1,89
26212040	FBY-EL-F co2ntrol 40	25	3,5	2,19E-01	3,06
26212050	FBY-EL-F co2ntrol 50	25	4,4	2,95E-01	4,12
26212063	FBY-EL-F co2ntrol 63	25	6,1	4,98E-01	6,96

Stages A1-A3 include Raw material extraction and processing, Transport to the manufacturer, Manufacturing