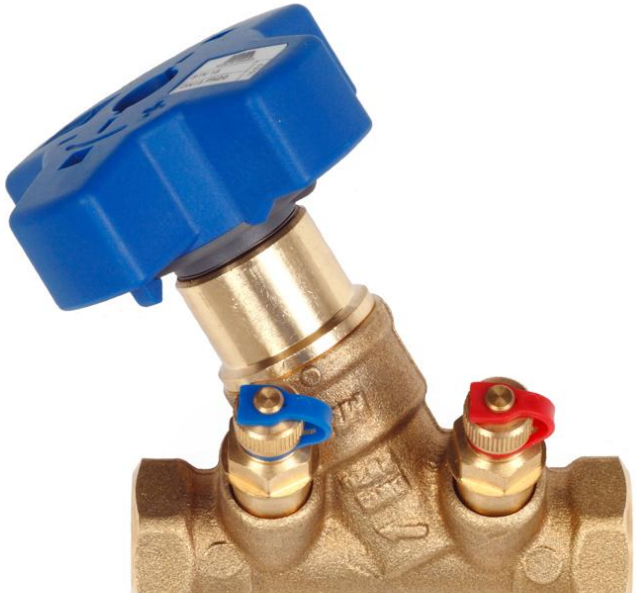
ENVIRONMENTAL PRODUCT DECLARATION

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

STV 25 Static balancing valve- DN 25 (with variants)
Purmo Group Sweden AB



EPD HUB, HUB-2444
Publishing date 13 January 2025, last updated on 13 January 2025, valid until 12 January 2030.

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GENERAL INFORMATION

MANUFACTURER

Manufacturer	Purmo Group Sweden AB
Address	Järnvägsgatan 19 28532 Markaryd Sweden
Contact details	order@mma.se
Website	https://global.purmo.com/en

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	Tejas Surya Naik, Purmo Group Sweden AB
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal verification ☑ External verification
EPD verifier	Magaly González Vázquez, 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	STV 25 Static balancing valve- DN 25 (with variants)
Additional labels	STV Static balancing valve (Internal threading) DN 10-50, STVM Static balancing valve (with drain) DN 10-50, STV-NPT Static balancing valve (NPT threads) DN 15-50, STVG Static balancing valve (External threading) DN 10-32, STVF Static balancing valve (prolonged neck) DN 15-32, STVL Static balancing valve (soldering connection) DN 15-50
Product reference	FD5B20025NDX00SE0, FD5B20025NDX00LR0, FD5B20025NDX00IT0
Place of production	Järnvägsgatan 19 28532 Markaryd Sweden
Period for data	Calendar year 2023
Averaging in EPD	No averaging
Variation in GWP-fossil for A1-A3	-

ENVIRONMENTAL DATA SUMMARY

Declared unit	1 unit of balancing valve
Declared unit mass	0.82 kg
GWP-fossil, A1-A3 ($kgCO_2e$)	5,90E+00
GWP-total, A1-A3 ($kgCO_2e$)	5,57E+00
Secondary material, inputs (%)	28.8
Secondary material, outputs (%)	38.4
Total energy use, A1-A3 (kWh)	28.4
Net freshwater use, A1-A3 (m^3)	0.17

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

Purmo Group Sweden AB manufactures equipment for regulating heating and cooling systems. The main products are thermostats, valves, radiator manifolds, wax sensors and couplings.

The production processes are mainly hot stamping, CNC machining, high-frequency soldering, and assembly. The raw material is mainly brass.

PRODUCT DESCRIPTION

The balancing valve STV is used to balance flows in heating and cooling systems accurately. With possibility to use lead free valves to lower your environment impact. Can be used for heating and cooling and for tap water applications. Wide range of sizes, accessories and balancing tools. The manual balancing valve STV is optimized for use in DHWC, heating- and cooling systems. STV are sized with nomogram, handwheel or online applications on smartphones or on our website.
STV shall be dimensioned at 50-80 % of maximum flow for the design flow. Minimum recommended differential pressure is 2 kPa (0,29 psi). The pressure test ports are opened by unscrewing the lids. Differential pressure can be measured using a balancing instrument.
STVM is equipped with a drain. The drain is opened with a screw driver. STVF is equipped with extra-long PT ports. Mounting direction is clearly shown with an arrow on the balancing valve. STV has internal ISO threads. STV NPT has internal NPT threads. STVG has external ISO threads. STVL has soldering ends/connection of ASME standard.

Scaling is considered for the different sizes and types of these static balancing valves. Primary data represents the manufacturing of STV 25 static balancing valve. The data was used to calculate representative impacts for broader STV balancing valve products range.

Manufacturing process is very similar for all the 28 products (variants and different sizes) covered under this EPD. The differences are within variation of thread types, sizes & type of valves manufacturing.

In Annex I scaling tables for various STV balancing valves represent the variability of the emissions i.e. A1-A3 global warming potential- fossil kg CO2e considering STV 25 static balancing valve as the major design and the scaling factor.

The scaling factor in Annex I is applicable to the following variants :STV static balancing valves (internal threading) DN 10-50; STVM Static balancing valve (with drain) DN 10-50; STV-NPT Static balancing valve (NPT threads) DN 15-50; STVG Static balancing valve (External threading) DN 10-32; STVF Static balancing valve (prolonged neck) DN 15-32; STVL Static balancing valve (soldering connection) DN 15-50.

Further information can be found at https://global.purmo.com/en.

PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	95	EU
Minerals	-	-
Fossil materials	5	EU, Asia
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	0.0954

FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 unit of balancing valve
Mass per declared unit	0.82 kg
Functional unit	-
Reference service life	-

SUBSTANCES, REACH - VERY HIGH CONCERN

Substances of very high concern	EC	CAS
Lead	231-100-4	7439-92-1
-	-	-
-	-	-
-	-	-

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 valve is made mostly of dezincification resistant metal alloy (brass) obtained from casting and metal processing. The valve bodies are mechanically processed from raw rods and forged pieces at our site and assembled with other valve components like handwheel, spindle, washers, measuring plugs, O-rings, sealants, gaskets and caps. Other main components along with Brass are polyamide, steel and rubber components.

The manufacturing processes; hotstamping/forging, machining, washing and component assembly require electricity and small portion of fossil fuel in LPG form (Pre heating the die for forging).

Waste related to production process are recycled according to agreements with disposal companies. Vast majority of our metal waste (scrap) is processed in the factory to get rid of the oil and then the metal shavings get recycled via our dedicated partners. We handle the wastewater via our recycling partner where 100% of the wastewater gets recycled. We also have a project to replace the inhouse vacuum evaporator which is curreny out of order to facilitate water recycling at our factory. Other wastes related to production, are treated with the most efficient available ways - through recycling (cardboard) or incineration with energy recovery (plastic components, pallet).

Company uses EUR pallets and we are a part of pallet pool where we reuse the pallets. i.e. Pallets are sent to the customers and the customers reuse them. Each time we send a pallet to our customer a pallet gets credited in the system. Internal transport is handled through reusable boxes. Packaging include cardboardboxes and few labels, the items are transported on a reusable EUR pallet from the factory gate.

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 emissions related to 1 declared unit of valve are based on real sales volumes from previous year. Average sales waited distance of transportation from warehouse to building site for France customers (77% of overall sales) is assumed as 1081.08 km and the transportation method used is lorry. We have delivered these

balancing valves (18% of the sales volume) to the local customers, the average sales weighted distance is assumed as 86,58 Km and the mode of transportation is lorry. 2% and 3% of these valves are delivered to the clients in Egypt and England respectively. In total 1319.4 km has been considered as average sales weighted distance. Transportation does not cause losses as products are packaged properly.
Environmental impacts from installation into the building include waste packaging materials (A5). Pallets are being reused and we have incorporated European EOL averages to simplify the calculation. Similarly, for the packaging wastes such as cardboard and paper European EOL averages have been utilized. The material impact and their disposal as installation wastes are addressed in the respective modules. We assume no material loss during installation in A5 stage as the valve installation is comparatively simple and no electrical tools are used during the installation. However, we assume that small amount of fibre sealant and grease will be used during installation and will be assembled until product end of life.

PRODUCT USE AND MAINTENANCE (B1-B7)

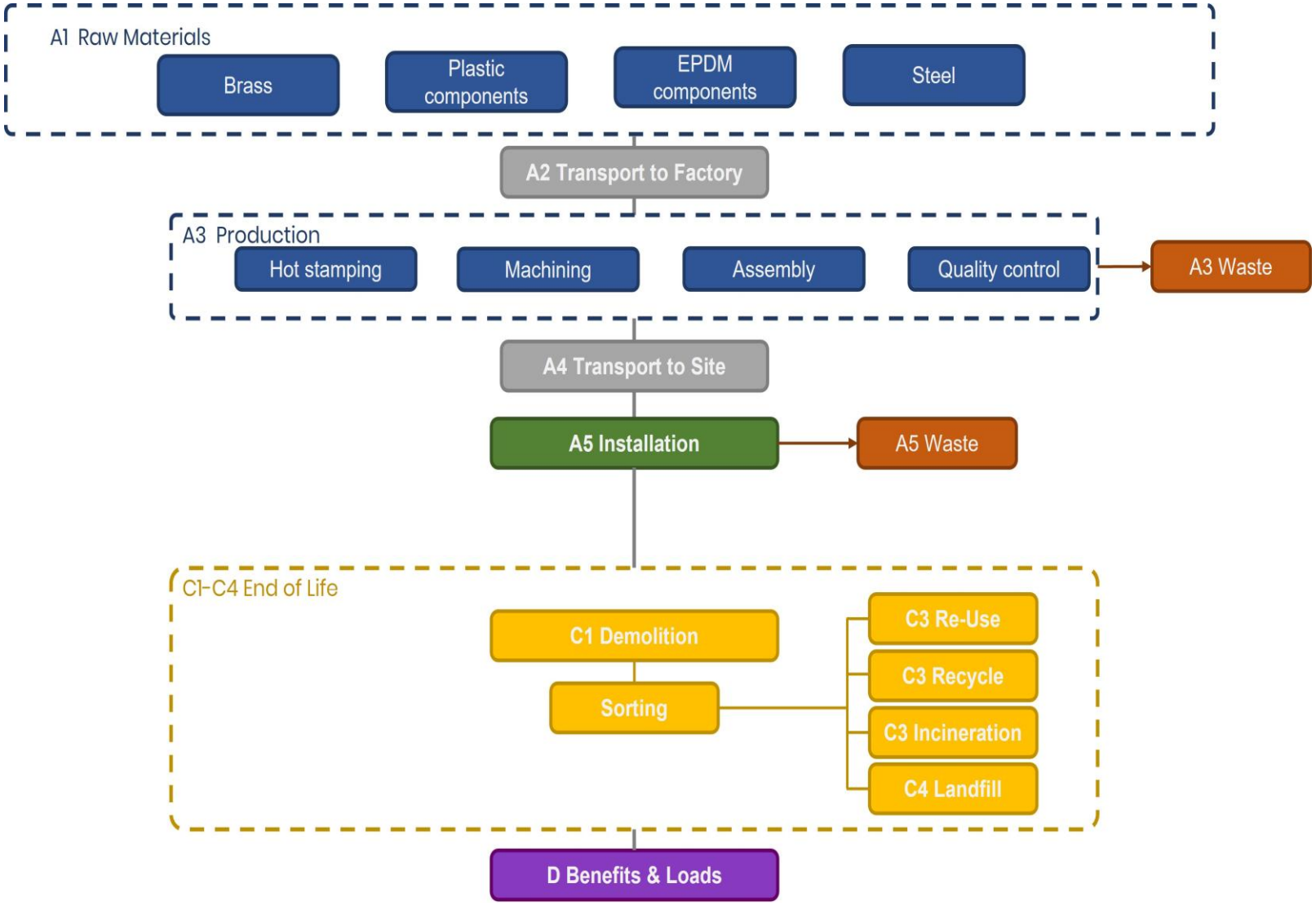
B stage is not applicable - product does not need resource consuming maintenance and is not using electricity.
Air, soil, and water impacts during the use phase have not been studied.

PRODUCT END OF LIFE (C1-C4, D)

Since the consumption of energy and natural resources is negligible for disassembling of the end-of-life product, the impacts of demolition are assumed as zero (C1). The end-of-life product is assumed to be sent to the closest facilities by lorry and is assumed to be 100 km and 250Km (recycling facilities) away (C2). 100% of the product is collected separately from the demolition site. 85% of the steel is assumed as recycled (C3) and 15% of the steel is assumed to be landfilled (C4). With a conservative assumption, 50% of the plastic is assumed to be incinerated (C3); thermal energy and electrical energy data have been calculated, while the remaining 50% of the plastic is assumed to be landfilled (C3). 20% of EPDM is assumed to be recycled (C3) and 80% of EPDM is assumed to be incinerated (C4) exporting thermal energy and electrical energy. 60% of the brass metal is assumed to be landfilled(C4) and 40% of the brass metal is assumed to be recycled (C3).

Due to the recycling and incineration potential of metals and plastics, the end-of-life product is converted into recycled materials, while energy and heat is produced from material incineration(D). The benefits and loads of waste packaging materials in A5 are also considered 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.

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

AVERAGES AND VARIABILITY

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

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 – total[1)]	kg CO_2e	5,37E+00	1,58E-01	3,91E-02	5,57E+00	1,49E-01	3,53E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,69E-02	4,40E-02	2,47E-03	-2,13E+00
GWP – fossil	kg CO_2e	5,36E+00	1,58E-01	3,87E-01	5,90E+00	1,49E-01	4,86E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,69E-02	4,40E-02	2,47E-03	-2,03E+00
GWP – biogenic	kg CO_2e	0,00E+00	0,00E+00	-3,49E-01	-3,49E-01	0,00E+00	3,49E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	-9,38E-02
GWP – LULUC	kg CO_2e	1,12E-02	6,43E-05	5,33E-04	1,18E-02	6,07E-05	3,63E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	6,88E-06	9,62E-06	2,33E-06	-4,58E-03
Ozone depletion pot.	kg $CFC\text{-}_{11}$e	2,94E-07	3,71E-08	3,91E-08	3,70E-07	3,50E-08	7,59E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,97E-09	9,79E-10	9,98E-10	-1,15E-07
Acidification potential	mol H^+e	3,67E-01	8,96E-04	2,51E-03	3,70E-01	8,46E-04	3,37E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	9,59E-05	9,72E-05	2,32E-05	-1,56E-01
EP-freshwater[2)]	kg Pe	1,62E-03	1,17E-06	1,47E-05	1,64E-03	1,10E-06	1,22E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,25E-07	3,84E-07	2,58E-08	-6,86E-04
EP-marine	kg Ne	1,83E-02	3,22E-04	4,58E-04	1,91E-02	3,04E-04	2,14E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,45E-05	2,46E-05	8,03E-06	-7,60E-03
EP-terrestrial	mol Ne	2,60E-01	3,54E-03	4,75E-03	2,68E-01	3,35E-03	1,32E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,79E-04	2,58E-04	8,83E-05	-1,09E-01
POCP ("smog")[3)]	kg NMVOCe	7,15E-02	1,01E-03	1,57E-03	7,40E-02	9,57E-04	3,85E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,08E-04	7,03E-05	2,57E-05	-3,00E-02
ADP-minerals & metals[4)]	kg Sbe	9,08E-03	5,40E-07	1,56E-06	9,08E-03	5,11E-07	2,29E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,78E-08	9,31E-07	5,67E-09	-3,89E-03
ADP-fossil resources	MJ	6,73E+01	2,39E+00	4,82E+00	7,45E+01	2,26E+00	6,94E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,56E-01	1,04E-01	6,76E-02	-2,50E+01
Water use[5)]	m^3e depr.	5,03E+00	1,15E-02	8,66E-02	5,12E+00	1,08E-02	5,17E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,23E-03	3,25E-03	2,15E-04	-1,94E+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	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Particulate matter	Incidence	8,45E-07	1,75E-08	2,89E-08	8,91E-07	1,65E-08	4,92E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,87E-09	1,22E-09	4,67E-10	-3,41E-07
Ionizing radiation[6)]	kBq U235e	6,60E-01	1,26E-02	2,22E-02	6,95E-01	1,18E-02	6,09E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,34E-03	1,08E-03	3,06E-04	-2,34E-01
Ecotoxicity (freshwater)	CTUe	3,41E+03	2,01E+00	8,08E+00	3,42E+03	1,90E+00	1,17E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,15E-01	5,06E-01	4,41E-02	-1,46E+03
Human toxicity, cancer	CTUh	6,92E-08	7,67E-11	4,99E-10	6,98E-08	7,24E-11	6,43E-12	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,21E-12	1,65E-11	1,10E-12	-1,93E-08
Human tox. non-cancer	CTUh	4,91E-06	2,24E-09	4,62E-09	4,92E-06	2,12E-09	2,22E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,40E-10	7,03E-10	2,88E-11	-2,10E-06
SQP[7)]	-	1,20E+02	2,08E+00	2,78E+01	1,50E+02	1,96E+00	7,77E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,22E-01	2,00E-01	1,45E-01	-5,12E+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	1,67E+01	3,49E-02	1,13E+01	2,80E+01	3,30E-02	3,50E-03	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,74E-03	1,69E-02	5,87E-04	-6,99E+00
Renew. PER as material	MJ	0,00E+00	0,00E+00	3,05E+00	3,05E+00	0,00E+00	-3,05E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,17E-01
Total use of renew. PER	MJ	1,67E+01	3,49E-02	1,44E+01	3,11E+01	3,30E-02	-3,05E+00	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,74E-03	1,69E-02	5,87E-04	-6,18E+00
Non-re. PER as energy	MJ	6,72E+01	2,39E+00	4,36E+00	7,39E+01	2,26E+00	6,94E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,56E-01	1,04E-01	6,76E-02	-2,50E+01
Non-re. PER as material	MJ	1,59E-01	0,00E+00	1,76E-01	3,34E-01	0,00E+00	-1,76E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	-3,17E-02	-1,27E-01	5,41E-02
Total use of non-re. PER	MJ	6,73E+01	2,39E+00	4,53E+00	7,43E+01	2,26E+00	-1,07E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,56E-01	7,24E-02	-5,92E-02	-2,49E+01
Secondary materials	kg	2,36E-01	8,02E-04	4,19E-02	2,79E-01	7,57E-04	5,52E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,58E-05	1,15E-04	1,42E-05	3,44E-01
Renew. secondary fuels	MJ	1,83E-03	8,36E-06	9,03E-02	9,21E-02	7,89E-06	4,82E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	8,94E-07	5,68E-06	3,71E-07	-5,71E-04
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	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m^3	1,64E-01	3,19E-04	3,20E-03	1,67E-01	3,01E-04	2,56E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,41E-05	1,11E-04	7,40E-05	-6,42E-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	1,53E+00	2,77E-03	2,45E-02	1,55E+00	2,61E-03	2,57E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,96E-04	6,46E-04	0,00E+00	-5,08E-01
Non-hazardous waste	kg	1,05E+02	4,90E-02	8,59E-01	1,06E+02	4,62E-02	1,48E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,24E-03	5,00E-02	4,73E-01	-4,45E+01
Radioactive waste	kg	2,37E-04	1,64E-05	1,61E-05	2,70E-04	1,55E-05	2,73E-07	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,76E-06	5,49E-07	0,00E+00	-8,65E-05

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	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	1,79E-01	1,79E-01	0,00E+00	9,20E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	3,15E-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	3,10E-03	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	0,00E+00	3,57E-01	MND	MND	MND	MND	MND	MND	MND	0,00E+00	0,00E+00	1,43E-01	2,83E-01	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_2e	5,24E+00	1,57E-01	3,82E-01	5,78E+00	1,48E-01	1,33E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,68E-02	4,36E-02	2,42E-03	-1,99E+00
Ozone depletion Pot.	kg CFC_{-11}e	2,44E-07	2,94E-08	3,19E-08	3,06E-07	2,77E-08	6,11E-10	MND	MND	MND	MND	MND	MND	MND	0,00E+00	3,15E-09	7,98E-10	7,90E-10	-9,52E-08
Acidification	kg SO_2e	3,22E-01	6,72E-04	2,07E-03	3,25E-01	6,34E-04	2,52E-05	MND	MND	MND	MND	MND	MND	MND	0,00E+00	7,19E-05	7,76E-05	1,75E-05	-1,37E-01
Eutrophication	kg PO_4^3e	9,79E-02	1,57E-04	5,84E-04	9,86E-02	1,49E-04	2,70E-04	MND	MND	MND	MND	MND	MND	MND	0,00E+00	1,68E-05	1,24E-04	3,78E-06	-4,15E-02
POCP (“smog”)	kg C_2H_4e	1,22E-02	2,19E-05	1,13E-04	1,23E-02	2,06E-05	2,88E-06	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,34E-06	3,07E-06	7,35E-07	-5,19E-03
ADP-elements	kg Sbe	9,07E-03	5,27E-07	1,51E-06	9,08E-03	4,98E-07	2,22E-08	MND	MND	MND	MND	MND	MND	MND	0,00E+00	5,64E-08	9,29E-07	5,58E-09	-3,89E-03
ADP-fossil	MJ	6,73E+01	2,39E+00	4,81E+00	7,45E+01	2,26E+00	6,94E-02	MND	MND	MND	MND	MND	MND	MND	0,00E+00	2,56E-01	1,04E-01	6,76E-02	-2,50E+01

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

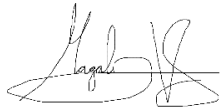
I hereby confirm that, following detailed examination, I have not established any relevant deviations by the studied Environmental Product Declaration (EPD), its LCA and project report, in terms of the data collected and used in the LCA calculations, the way the LCA-based calculations have been carried 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
13.01.2025



VERIFIED ISO 14025

ANNEX I

SCALING TABLES

Table No. 1								
EN 15804+A2, PEF	Product Size [mm]	STV 10	STV 15	STV 20	STV 25	STV 32	STV 40	STV 50
	Product weight [kg]	0.549	0.578	0.638	**0.824**	1.102	1.475	2.152
	Impact category	A1-A3	A1-A3	A1-A3	**A1-A3**	A1-A3	A1-A3	A1-A3
	GWP - Fossil	0.737	0.766	0.825	**1**	1.278	1.642	2.302

Table No. 2									
EN 15804+A2, PEF	Product Size [mm]	STVM 10	STVM 15	STVM 20	STV 25	STVM 25	STVM 32	STVM 40	STVM 50
	Product weight [kg]	0.64	0.669	0.725	**0.824**	0.917	1.194	1.57	2.244
	Impact category	A1-A3	A1-A3	A1-A3	**A1-A3**	A1-A3	A1-A3	A1-A3	A1-A3
	GWP - Fossil	0.827	0.854	0.910	**1**	1.097	1.368	1.734	2.392

Table No. 3								
EN 15804+A2, PEF	Product Size [mm]	STV NPT 15/ STVL 15	STV NPT 20/ STVL 20	STV NPT 25/ STVL 25	STV 25	STV NPT 32/ STVL 32	STV NPT 40/ STVL 40	STV NPT 50/ STVL 50
	Product weight [kg]	0.558	0.616	0.816	**0.824**	1.086	1.546	2.195
	Impact category	A1-A3	A1-A3	A1-A3	**A1-A3**	A1-A3	A1-A3	A1-A3
	GWP - Fossil	0.746	0.803	0.998	**1**	1.263	1.710	2.344

Table No. 4							
EN 15804+A2, PEF	Product Size [mm]	STVG 10	STVG 15	STVG 20	STV 25	STVG 25	STVG 32
	Product weight [kg]	0.512	0.555	0.611	**0.824**	0.804	1.055
	Impact category	A1-A3	A1-A3	A1-A3	**A1-A3**	A1-A3	A1-A3
	GWP - Fossil	0.702	0.744	0.798	**1**	0.986	1.232

Table No. 5						
EN 15804+A2, PEF	Product Size [mm]	STVF 15	STVF 20	STVF 25	STV 25	STVF 32
	Product weight [kg]	0.558	0.616	0.973	**0.824**	1.086
	Impact category	A1-A3	A1-A3	A1-A3	**A1-A3**	A1-A3
	GWP - Fossil	0.746	0.803	1.151	**1**	1.263