



# ENVIRONMENTAL PRODUCT DECLARATION

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

Power and NV Fasteners

VILPE Oy



**EPD HUB, HUB-1902**

Published on 23.08.2024, last updated on 23.08.2024, valid until 23.08.2029

## GENERAL INFORMATION

### MANUFACTURER

Manufacturer	VILPE Oy
Address	Kauppatie 9, FI-65610 Mustasaari
Contact details	sales@vilpe.com
Website	<a href="https://www.vilpe.com/">https://www.vilpe.com/</a>

### EPD STANDARDS, SCOPE AND VERIFICATION

Program operator	EPD Hub, hub@epdhub.com
Reference standard	EN 15804+A2:2019 und ISO 14025
PCR	EPD Hub Core PCR Version 1.1, 5 Dec 2023
Sector	Construction product
Category of EPD	Third party verified EPD
Scope of the EPD	Cradle to gate with options, A4-A5, and modules C1-C4, D
EPD author	Milja Sarapaa
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 Lamkaddam as an authorized verifier for EPD Hub

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	Power and NV Fasteners
Additional labels	
Product reference	
Place of production	Mustasaari, Finland
Period for data	2023 (Calendar year)
Averaging in EPD	Multiple products
Variation in GWP-fossil for A1-A3	-35% +2,1%

### ENVIRONMENTAL DATA SUMMARY

Declared unit	1 kg
Declared unit mass	1 kg
GWP-fossil, A1-A3 (kgCO <sub>2</sub> e)	9,35E+00
GWP-total, A1-A3 (kgCO <sub>2</sub> e)	9,11E+00
Secondary material, inputs (%)	0
Secondary material, outputs (%)	0
Total energy use, A1-A3 (kWh)	35.7
Net freshwater use, A1-A3 (m <sup>3</sup> )	0.25

## PRODUCT AND MANUFACTURER

### ABOUT THE MANUFACTURER

VILPE Oy is a Finnish family-owned company that develops and manufactures ventilation and roofing solutions for the construction industry. The company's operations are based on customer-oriented and innovative product development. Our high quality VILPE® products bring better indoor air quality, energy efficiency and longevity of structures to all spaces and thus improve people's quality of life. VILPE represents safe construction and living, which reinforces the company's commitment to quality and reliability.

### PRODUCT DESCRIPTION

**Power A Fastener:** For fastening new roof covering and insulation material to an old bitumen felt roof, or for fastening an insulation sheet to another piece of insulation material (e.g. Styrox, foam sheets, polyurethane sheets). The length of the fastener should be chosen according to the thickness of the insulation material. Made of strong polyamide (nylon); standard colour is black. The square body is stronger than a round body, and prevents the tool being used from spinning around during installation.

**Power A adjustable Fastener:** For fastening new roof covering and insulation material to an old bitumen felt roofing or for fastening an insulation sheet to another insulation material (e.g. Styrox, foam sheets, polyurethane sheets). The length of the fastener is chosen according to the insulation thickness. Adjustable Power A fasteners have 50 mm adjustment margin in the length. Made of strong polyamide (nylon), the basic colour is black.

**NV Distance Piece Fastener:** Designed for use in board-clad exterior wall construction as a distance piece between the frame and the fixing battens of the external cladding. Suitable for use with both soft and hard insulation. Construction projects which make use of distance pieces have improved heat

insulation and save timber material. The distance piece should be selected according to the thickness of the insulation.

This EPD consists of the properties of Power fasteners, adjustable Power fasteners, and NV fasteners.

Further information can be found at <https://www.vilpe.com/>.

### PRODUCT RAW MATERIAL MAIN COMPOSITION

Raw material category	Amount, mass %	Material origin
Metals	0	
Minerals	0	
Fossil materials	100	EU
Bio-based materials	0	

### BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	0
Biogenic carbon content in packaging, kg C	0.065454545

### FUNCTIONAL UNIT AND SERVICE LIFE

Declared unit	1 kg
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	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 fasteners of VILPE Oy are manufactured at the Mustasaari site in Finland. The production process consists of raw material delivery, injection molding, quality inspection, and packaging. During injection molding, the raw material is plasticized, injected into the mold, cooled, and removed from the mold. Some assembly is automated. Production requires electricity, heat, and water. Slightly less than 10% of the electricity comes from the production facilities own solar power plant, and until the end of 2023, the rest is from general electricity, after which it will be nuclear electricity. The waste heat from the machines is directed to a heat recovery center and used for building heating. The cooling water is in a closed loop. The material requirement and generated waste vary depending on the size of the product. The casting cores for the fasteners have a closed material loop and are used in the same cycle after grinding in the mill. Other production waste is recycled in the process for other products.

## 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 distribution distance is calculated as a weighted average of the significant sales volumes. Products are transported in full pallets. During installation, the disposal of packaging material is included in the estimate. Fasteners are packed in recycled plastic waste bags and cardboard boxes. The amount of packaging material varies slightly depending on the type of the fasteners. After installation, the packaging material is transported by truck to a recycling facility. The average distance to a recycling facility in Finland has been used. Scenario estimates have employed average recycling methods and practices. There is no material waste during installation. The energy consumption during installation, mainly consisting of the use of a drill, has been excluded from the calculations as it is assumed to be insignificant per examined product unit.

### 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)

The end-of-life stage consists of the following modules:

C1: Deconstruction of the product

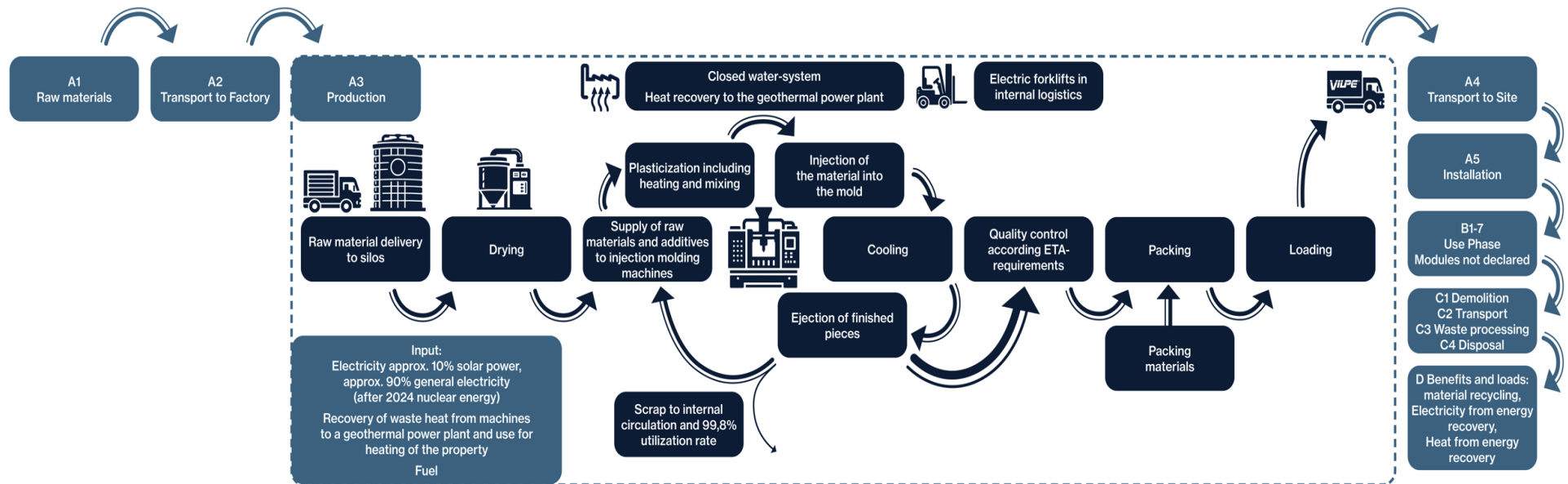
C2: Transportation of the discarded product

C3: Waste processing

C4: Disposal

The end-of-life scenario represents the most likely option in Finland. The average distance to waste treatment facilities in Finland has been used for waste transportation distance. The end-of-life scenario is based on the recycling practices available in Finland. After disposal, it is assumed that the polypropylene of the fastener will be incinerated. Due to the energy usage possibilities of the product and packaging, recycled raw material leads to the avoidance of virgin material while energy recovery at the incineration plant displaces electricity and heat production.

## 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	Allocated by mass or volume
Packaging material	Allocated by mass or volume
Ancillary materials	Allocated by mass or volume
Manufacturing energy and waste	Allocated by mass or volume

### AVERAGES AND VARIABILITY

Type of average	Multiple products
Averaging method	Representative product
Variation in GWP-fossil for A1-A3	-35% +2,1% %

The average includes all Power fastener lengths between 60mm and 350mm and NV fasteners lengths between 30mm and 70mm. Both adjustable and non-adjustable Power fasteners are included in the average.

### 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 <sup>1)</sup>	kg CO <sub>2</sub> e	8,85E+00	1,23E-01	1,42E-01	9,11E+00	1,67E-01	2,97E-01	MND	MND	MND	MND	MND	MND	MND	MNR	4,69E-03	2,38E+00	0,00E+00	8,25E-01
GWP – fossil	kg CO <sub>2</sub> e	8,85E+00	1,23E-01	3,82E-01	9,35E+00	1,67E-01	5,65E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,69E-03	2,38E+00	0,00E+00	8,27E-01
GWP – biogenic	kg CO <sub>2</sub> e	0,00E+00	0,00E+00	-2,40E-01	-2,40E-01	0,00E+00	2,40E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
GWP – LULUC	kg CO <sub>2</sub> e	2,63E-04	5,00E-05	7,45E-04	1,06E-03	6,28E-05	2,32E-06	MND	MND	MND	MND	MND	MND	MND	MNR	1,73E-06	2,02E-05	0,00E+00	-2,57E-03
Ozone depletion pot.	kg CFC-11e	2,95E-04	2,78E-08	2,21E-08	2,95E-04	3,83E-08	4,68E-10	MND	MND	MND	MND	MND	MND	MND	MNR	1,08E-09	5,22E-09	0,00E+00	-8,31E-08
Acidification potential	mol H <sup>+</sup> e	1,72E-02	8,90E-04	4,26E-03	2,23E-02	8,04E-04	2,70E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,99E-05	5,50E-04	0,00E+00	-1,19E-02
EP-freshwater <sup>2)</sup>	kg Pe	2,69E-04	9,45E-07	1,02E-04	3,72E-04	1,35E-06	7,53E-08	MND	MND	MND	MND	MND	MND	MND	MNR	3,84E-08	6,25E-07	0,00E+00	-6,30E-05
EP-marine	kg Ne	5,16E-03	2,43E-04	6,09E-04	6,01E-03	2,33E-04	2,39E-05	MND	MND	MND	MND	MND	MND	MND	MNR	5,90E-06	2,57E-04	0,00E+00	-1,20E-03
EP-terrestrial	mol Ne	4,55E-02	2,69E-03	1,13E-02	5,95E-02	2,58E-03	1,05E-04	MND	MND	MND	MND	MND	MND	MND	MNR	6,51E-05	2,64E-03	0,00E+00	-1,45E-02
POCP (“smog”) <sup>3)</sup>	kg NMVOCe	1,47E-02	7,88E-04	1,40E-03	1,69E-02	8,05E-04	3,24E-05	MND	MND	MND	MND	MND	MND	MND	MNR	2,08E-05	6,40E-04	0,00E+00	-4,11E-03
ADP-minerals & metals <sup>4)</sup>	kg Sbe	0,00E+00	2,75E-07	7,16E-07	9,91E-07	3,88E-07	3,41E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,10E-08	2,15E-07	0,00E+00	-1,20E-06
ADP-fossil resources	MJ	0,00E+00	1,81E+00	1,77E+00	3,58E+00	2,50E+00	4,53E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,05E-02	4,43E-01	0,00E+00	-1,99E+01
Water use <sup>5)</sup>	m <sup>3</sup> e depr.	2,05E-02	7,86E-03	1,53E+00	1,55E+00	1,11E-02	4,52E-03	MND	MND	MND	MND	MND	MND	MND	MNR	3,15E-04	9,42E-02	0,00E+00	-1,45E-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 PO<sub>4</sub>e; 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	1,56E-07	1,30E-08	2,62E-08	1,95E-07	1,89E-08	3,31E-10	MND	MND	MND	MND	MND	MND	MND	MNR	5,41E-10	2,68E-09	0,00E+00	-1,15E-07
Ionizing radiation <sup>6)</sup>	kBq 11235e	1,03E+00	8,60E-03	4,97E-01	1,53E+00	1,19E-02	4,11E-04	MND	MND	MND	MND	MND	MND	MND	MNR	3,36E-04	1,36E-03	0,00E+00	-3,99E-01
Ecotoxicity (freshwater)	CTUe	1,07E+05	1,59E+00	1,04E+01	1,07E+05	2,23E+00	1,23E-01	MND	MND	MND	MND	MND	MND	MND	MNR	6,34E-02	5,00E+00	0,00E+00	-3,28E+01
Human toxicity, cancer	CTUh	7,20E-04	4,43E-11	2,98E-10	7,20E-04	5,63E-11	7,63E-12	MND	MND	MND	MND	MND	MND	MND	MNR	1,56E-12	2,12E-10	0,00E+00	-2,95E-10
Human tox. non-cancer	CTUh	1,47E-04	1,53E-09	5,28E-09	1,47E-04	2,20E-09	2,30E-10	MND	MND	MND	MND	MND	MND	MND	MNR	6,27E-11	8,09E-09	0,00E+00	-7,27E-09
SQP <sup>7)</sup>	-	1,17E+00	1,92E+00	1,26E+01	1,57E+01	2,83E+00	4,92E-02	MND	MND	MND	MND	MND	MND	MND	MNR	8,12E-02	1,49E-01	0,00E+00	-1,82E+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 <sup>8)</sup>	MJ	8,60E-01	1,97E-02	4,36E+00	5,24E+00	2,79E-02	4,64E-03	MND	MND	MND	MND	MND	MND	MND	MNR	7,94E-04	1,73E-02	0,00E+00	-4,77E+00
Renew. PER as material	MJ	5,00E-02	0,00E+00	2,10E+00	2,15E+00	0,00E+00	-2,10E+00	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	-5,00E-02	0,00E+00	0,00E+00
Total use of renew. PER	MJ	9,10E-01	1,97E-02	6,46E+00	7,39E+00	2,79E-02	-2,10E+00	MND	MND	MND	MND	MND	MND	MND	MNR	7,94E-04	-3,27E-02	0,00E+00	-4,77E+00
Non-re. PER as energy	MJ	1,08E+02	1,81E+00	1,37E+01	1,23E+02	2,50E+00	4,53E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,05E-02	4,43E-01	0,00E+00	-1,99E+01
Non-re. PER as material	MJ	3,09E+01	0,00E+00	8,03E-01	3,17E+01	0,00E+00	-8,03E-01	MND	MND	MND	MND	MND	MND	MND	MNR	0,00E+00	-3,09E+01	0,00E+00	0,00E+00
Total use of non-re. PER	MJ	1,39E+02	1,81E+00	1,45E+01	1,55E+02	2,50E+00	-7,57E-01	MND	MND	MND	MND	MND	MND	MND	MNR	7,05E-02	-3,05E+01	0,00E+00	-1,99E+01
Secondary materials	kg	4,31E-05	5,33E-04	1,12E-01	1,13E-01	7,01E-04	6,51E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,96E-05	3,94E-04	0,00E+00	-2,58E-03
Renew. secondary fuels	MJ	8,79E-07	4,82E-06	3,89E-02	3,89E-02	6,93E-06	4,35E-07	MND	MND	MND	MND	MND	MND	MND	MNR	1,97E-07	1,39E-05	0,00E+00	-1,02E-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	MNR	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of net fresh water	m <sup>3</sup>	2,34E-01	2,24E-04	1,41E-02	2,48E-01	3,21E-04	3,94E-05	MND	MND	MND	MND	MND	MND	MND	MNR	9,13E-06	3,52E-03	0,00E+00	-1,25E-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	4,50E-01	2,41E-03	2,17E-02	4,74E-01	3,31E-03	2,08E-04	MND	MND	MND	MND	MND	MND	MND	MNR	9,34E-05	0,00E+00	0,00E+00	-1,26E-01
Non-hazardous waste	kg	2,40E-01	3,77E-02	6,95E-01	9,73E-01	5,39E-02	8,94E-02	MND	MND	MND	MND	MND	MND	MND	MNR	1,54E-03	1,00E+00	0,00E+00	-4,01E+00
Radioactive waste	kg	1,01E-06	1,22E-05	1,93E-04	2,06E-04	1,67E-05	1,66E-07	MND	MND	MND	MND	MND	MND	MND	MNR	4,71E-07	0,00E+00	0,00E+00	-1,14E-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	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	9,78E-02	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	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
Exported energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,83E-01	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	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Global Warming Pot.	kg CO <sub>2</sub> e	8,40E+00	1,22E-01	4,10E-01	8,93E+00	1,65E-01	7,06E-02	MND	MND	MND	MND	MND	MND	MND	MNR	4,64E-03	2,38E+00	0,00E+00	8,52E-01
Ozone depletion Pot.	kg CFC <sub>11</sub> e	2,62E-04	2,20E-08	1,86E-08	2,62E-04	3,03E-08	3,83E-10	MND	MND	MND	MND	MND	MND	MND	MNR	8,55E-10	4,70E-09	0,00E+00	-6,74E-08
Acidification	kg SO <sub>2</sub> e	1,42E-02	7,01E-04	3,14E-03	1,80E-02	6,28E-04	2,01E-05	MND	MND	MND	MND	MND	MND	MND	MNR	1,54E-05	3,91E-04	0,00E+00	-1,02E-02
Eutrophication	kg PO <sub>4</sub> <sup>3</sup> e	6,03E-03	1,20E-04	9,57E-04	7,10E-03	1,32E-04	1,17E-04	MND	MND	MND	MND	MND	MND	MND	MNR	3,52E-06	2,83E-04	0,00E+00	-1,99E-03
POCP (“smog”)	kg C <sub>2</sub> H <sub>4</sub> e	9,79E-04	2,28E-05	1,42E-04	1,14E-03	2,33E-05	3,80E-06	MND	MND	MND	MND	MND	MND	MND	MNR	6,03E-07	8,46E-06	0,00E+00	-4,54E-04
ADP-elements	kg Sbe	3,68E-06	2,67E-07	3,68E-06	7,62E-06	3,76E-07	3,32E-08	MND	MND	MND	MND	MND	MND	MND	MNR	1,07E-08	1,68E-07	0,00E+00	-1,25E-06
ADP-fossil	MJ	1,27E+02	1,81E+00	1,37E+01	1,42E+02	2,50E+00	4,52E-02	MND	MND	MND	MND	MND	MND	MND	MNR	7,05E-02	4,43E-01	0,00E+00	-1,95E+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.

Imane Uald lamkaddam, as an authorized verifier acting for EPD Hub Limited  
23.08.2024



## APPENDIX

### PRODUCT PORTFOLIO INCLUDED IN SCOPE

The following list of products are included in the scope of declaration.

Product number	Product name
21335	NV-30 FASTENER
21345	NV-40 FASTENER
21346	NV-45 FASTENER
21360	NV-50 FASTENER
21365	NV-55 FASTENER
21270	NV-70 FASTENER
284060	POWER A-60 00 SQUARE
284070	POWER A-70 00-20 SQUARE
284090	POWER A-90 20-40 SQUARE
284110	POWER A-110 40-60 SQUARE
284130	POWER A-130 60-80 SQUARE
284150	POWER A-150 80-100 SQUARE
28175	POWER A-175 100-120 SQUARE
28200	POWER A-200 130-150 SQUARE
28225	POWER A-225 160-170 SQUARE
28250	POWER A-250 180-230 SCREW
28300	POWER A-300 230-280 SCREW
28350	POWER A-350 280-330 SCREW