

ENVIRONMENTAL PRODUCT DECLARATION

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

HAGAB®

BASIC 4 HAGAB INDUSTRI AB



EPD HUB, HUB-1226

Publishing on 11.03.2024, last updated on 11.03.2024, valid until 11.03.2029.

ENVIRONMENTAL PRODUCT DECLARATION

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



GENERAL INFORMATION

| Manufacturer | |
|------------------------|---|
| Manufacturer | Hagab Industri AB |
| Address VP-002 | Industrivägen 5 |
| Contact details VP-003 | info@hagab.com |
| Website | https://hagab.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 EN 15804 +A2 |
| 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 VP-004 | Petter Ydrestrand, HAGAB |
| 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 VP-055 | Elma Avdyli, 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 | Basic 4 |
| Additional labels | Appendix A |
| Product reference | - |
| Place of production | Taberg, Sweden |
| Period for data | 2023 |
| Averaging in EPD | No averaging |
| Variation in GWP-fossil for A1-A3 | Not Relevant |

| Environmental data summary | |
|---|--|
| Declared unit | One Basic 4 in size 125 with Iris damper |
| Declared unit mass | 1.63 kg |
| GWP-fossil, A1-A3 (kgCO ₂ e) | 3,92E+00 |
| GWP-total, A1-A3 (kgCO ₂ e) | 3,03E+00 |
| Secondary material, inputs (%) | 5.33 |
| Secondary material, outputs (%) | 91.3 |
| Total energy use, A1-A3 (kWh) | 21.3 |
| Total water use, A1-A3 (m ³ e) | 3,81E-02 |

PRODUCT AND MANUFACTURER

ABOUT THE MANUFACTURER

HAGAB is one of Sweden's leading companies which develop, manufacture and sell advanced solutions for fire protection and ventilation. Since 1985, HAGAB have been making everyday life easier and safer for our customers.

PRODUCT DESCRIPTION

The backflow protection Basic 4 is a self-acting backflow protection, for duct installation. In the event of a fire, Basic 4 acts as an immediate protection against the spread of fire gases in solutions with fans in operation.

The backflow protection isolates the exhaust air system in the event of a fire, which means that other fire-free fire cells function without being affected by the fire. The Basic 4 backflow protection is easy to assemble and has no mechanical or electronic components that require service and maintenance, which is why a 25-year warranty is promised.

With Basic 4, the simplicity and the minimal operating and maintenance costs become security both in the short and long term. Basic 4 can be placed both inside and outside the serviced fire cell. It can be used in the same way also for rooms without windows, for example, basement rooms.

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

PRODUCT RAW MATERIAL MAIN COMPOSITION

| Raw material category | Amount, mass- % | Material origin |
|-----------------------|-----------------|------------------|
| Metals | 94,5% | Europe and China |
| Minerals | 2,3% | Europe and China |
| Fossil materials | 3,2% | Europe and China |
| 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 | 0.242 |

FUNCTIONAL UNIT AND SERVICE LIFE

| | |
|------------------------|--|
| Declared unit | One Basic 4 with Iris damper in size 125 |
| Mass per declared unit | 1.63 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).

ENVIRONMENTAL PRODUCT DECLARATION

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



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 | Deconstr./demol. | Transport | Waste processing | Disposal | Reuse |

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 product is made from steel, rubber and plastics. A1 covers the raw material extraction and manufacturing of all the semi-finished products which are bought from external suppliers. A2 covers the transport of the semi-finished products from the suppliers to our manufacturing site in Taberg where the final product is assembled. A3 covers the energy and heat used under the assembly process made by hand without any further complicated processes. The finished products are packed together in a cardboard box which is placed on a wooden pallet and shipped off to the customer.

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.

A4 covers the transport to the installation site for the product with appurtenant packaging shipped on pallets. 300 km average transportation is assumed. A5 involves the installation which is done by hand without any major procedures and waste treatment of the accompanying

packaging. The packaging cardboard is assumed to be recycled and the pallet incinerated.

PRODUCT USE AND MAINTENANCE (B1-B7)

N/A.

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

PRODUCT END OF LIFE (C1-C4, D)

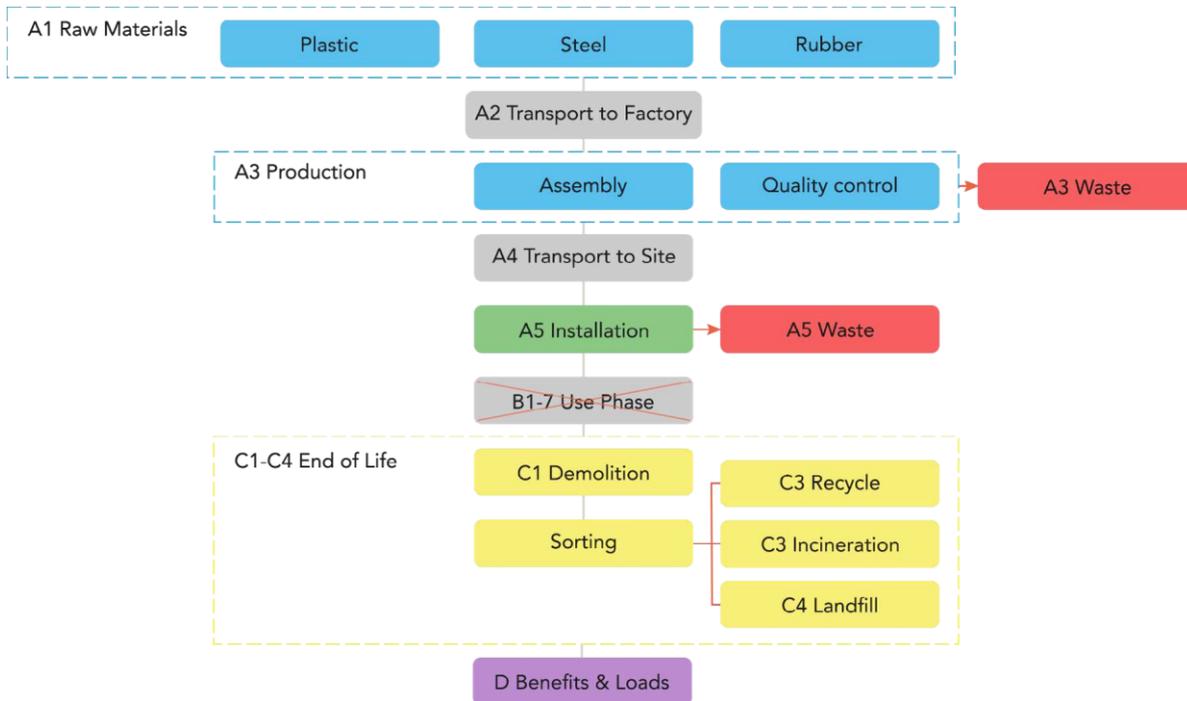
Consumption of energy and natural resources in the demolition process is assumed to be negligible because it can be done by hand. C2 involves the transportation of waste which is assumed to be 300 km and done by lorry. C3 covers the sorting and pressing of iron scrap and the treatment of plastic and rubber. C4 includes the waste disposal processes where 95% of the steel is assumed to be recycled and 5% to be landfilled. All the remaining materials are assumed to be incinerated. D includes the loads from recycling the steel and burning the plastics and rubber. Furthermore, the benefit of avoiding virgin production of steel and energy recovery from plastic and rubber.

ENVIRONMENTAL PRODUCT DECLARATION

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



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 materials | Allocated by mass or volume |
| Ancillary materials | Not applicable |
| 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 | Not Relevant |

The EPD data is based on one specific size of the product. The Product variation table (appendix A) is made from complete scenarios with the correct weights of components of all sizes and configurations. The conversion factor is based on total CO₂eq.

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 PRODUCT DECLARATION

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

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 ₂ e | 3,41E+00 | 1,48E-01 | -5,28E-01 | 3,03E+00 | 6,31E-02 | 9,11E-01 | MND | 0,00E+00 | 7,65E-02 | 1,55E-01 | 4,01E-04 | 2,38E+00 |
| GWP – fossil | kg CO ₂ e | 3,41E+00 | 1,48E-01 | 3,65E-01 | 3,93E+00 | 6,31E-02 | 1,64E-02 | MND | 0,00E+00 | 7,65E-02 | 1,55E-01 | 4,00E-04 | 2,38E+00 |
| GWP – biogenic | kg CO ₂ e | 2,30E-04 | 5,49E-05 | -8,94E-01 | -8,94E-01 | 0,00E+00 | 8,94E-01 | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| GWP – LULUC | kg CO ₂ e | 2,89E-03 | 6,06E-05 | 1,24E-03 | 4,20E-03 | 2,33E-05 | 1,57E-05 | MND | 0,00E+00 | 3,06E-05 | 4,23E-05 | 3,78E-07 | 5,34E-04 |
| Ozone depletion pot. | kg CFC ₁₁ e | 2,60E-07 | 3,42E-08 | 3,13E-08 | 3,25E-07 | 1,45E-08 | 2,61E-09 | MND | 0,00E+00 | 1,77E-08 | 4,16E-09 | 1,62E-10 | 9,36E-08 |
| Acidification potential | mol H ⁺ e | 3,81E-02 | 5,49E-04 | 1,48E-03 | 4,01E-02 | 2,67E-04 | 6,17E-05 | MND | 0,00E+00 | 2,17E-04 | 4,28E-04 | 3,76E-06 | 1,00E-02 |
| EP-freshwater ²⁾ | kg Pe | 4,35E-05 | 1,04E-06 | 1,57E-05 | 6,03E-05 | 5,17E-07 | 5,78E-07 | MND | 0,00E+00 | 5,46E-07 | 1,72E-06 | 4,19E-09 | 9,80E-05 |
| EP-marine | kg Ne | 4,03E-03 | 1,17E-04 | 5,20E-04 | 4,66E-03 | 7,94E-05 | 1,16E-05 | MND | 0,00E+00 | 4,33E-05 | 9,78E-05 | 1,30E-06 | 2,01E-03 |
| EP-terrestrial | mol Ne | 1,30E-01 | 1,30E-03 | 4,43E-03 | 1,36E-01 | 8,76E-04 | 1,25E-04 | MND | 0,00E+00 | 4,81E-04 | 1,11E-03 | 1,43E-05 | 2,34E-02 |
| POCP (“smog”) ³⁾ | kg NMVOCe | 1,56E-02 | 4,50E-04 | 1,39E-03 | 1,75E-02 | 2,80E-04 | 4,28E-05 | MND | 0,00E+00 | 1,85E-04 | 3,02E-04 | 4,17E-06 | 1,18E-02 |
| ADP-minerals & metals ⁴⁾ | kg Sbe | 2,31E-04 | 5,24E-07 | 1,58E-06 | 2,33E-04 | 1,48E-07 | 8,15E-08 | MND | 0,00E+00 | 2,77E-07 | 4,25E-06 | 9,20E-10 | 4,42E-05 |
| ADP-fossil resources | MJ | 4,42E+01 | 2,20E+00 | 3,31E+00 | 4,97E+01 | 9,48E-01 | 2,55E-01 | MND | 0,00E+00 | 1,14E+00 | 4,50E-01 | 1,10E-02 | 2,10E+01 |
| Water use ⁵⁾ | m ³ e depr. | 2,91E+00 | 1,02E-02 | 1,63E+00 | 4,55E+00 | 4,24E-03 | 3,49E-03 | MND | 0,00E+00 | 5,33E-03 | 1,32E-02 | 3,48E-05 | 4,34E-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.

ENVIRONMENTAL PRODUCT DECLARATION

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

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 | 3,99E-07 | 1,18E-08 | 2,03E-08 | 4,31E-07 | 7,27E-09 | 1,73E-09 | MND | 0,00E+00 | 6,16E-09 | 5,36E-09 | 7,58E-11 | 1,59E-07 |
| Ionizing radiation ⁶⁾ | kBq U235e | 4,16E-01 | 1,15E-02 | 7,18E-01 | 1,15E+00 | 4,51E-03 | 3,26E-03 | MND | 0,00E+00 | 5,97E-03 | 4,83E-03 | 4,96E-05 | -6,07E-02 |
| Ecotoxicity (freshwater) | CTUe | 1,64E+02 | 1,82E+00 | 8,27E+00 | 1,74E+02 | 8,53E-01 | 6,22E-01 | MND | 0,00E+00 | 9,50E-01 | 2,19E+00 | 7,16E-03 | 8,45E+01 |
| Human toxicity, cancer | CTUh | 2,23E-08 | 5,74E-11 | 1,07E-09 | 2,34E-08 | 2,09E-11 | 1,53E-11 | MND | 0,00E+00 | 2,92E-11 | 7,02E-11 | 1,79E-13 | -1,96E-08 |
| Human tox. non-cancer | CTUh | 2,01E-07 | 1,78E-09 | 4,81E-09 | 2,07E-07 | 8,44E-10 | 2,47E-10 | MND | 0,00E+00 | 9,30E-10 | 3,06E-09 | 4,68E-12 | 5,61E-08 |
| SQP ⁷⁾ | - | 1,02E+01 | 1,55E+00 | 6,44E+01 | 7,61E+01 | 1,09E+00 | 1,31E-01 | MND | 0,00E+00 | 8,08E-01 | 8,66E-01 | 2,35E-02 | 7,88E+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 | A2 | A3 | A1-A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|------------------------------------|------|----------|----------|----------|----------|----------|-----------|-----|-----|-----|-----|-----|-----|-----|----------|----------|-----------|----------|-----------|
| Renew. PER as energy ⁸⁾ | MJ | 5,47E+00 | 3,15E-02 | 5,61E+00 | 1,11E+01 | 1,07E-02 | 1,93E-02 | MND | 0,00E+00 | 1,66E-02 | 7,65E-02 | 9,53E-05 | 1,93E+00 |
| Renew. PER as material | MJ | 0,00E+00 | 0,00E+00 | 7,81E+00 | 7,81E+00 | 0,00E+00 | -7,81E+00 | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Total use of renew. PER | MJ | 5,47E+00 | 3,15E-02 | 1,34E+01 | 1,89E+01 | 1,07E-02 | -7,79E+00 | MND | 0,00E+00 | 1,66E-02 | 7,65E-02 | 9,53E-05 | 1,93E+00 |
| Non-re. PER as energy | MJ | 4,63E+01 | 2,20E+00 | 1,69E+01 | 6,55E+01 | 9,48E-01 | 2,55E-01 | MND | 0,00E+00 | 1,14E+00 | 4,50E-01 | 1,10E-02 | 2,10E+01 |
| Non-re. PER as material | MJ | 8,28E-01 | 0,00E+00 | 4,46E-01 | 1,27E+00 | 0,00E+00 | -4,46E-01 | MND | 0,00E+00 | 0,00E+00 | -8,28E-01 | 0,00E+00 | 0,00E+00 |
| Total use of non-re. PER | MJ | 4,72E+01 | 2,20E+00 | 1,74E+01 | 6,67E+01 | 9,48E-01 | -1,91E-01 | MND | 0,00E+00 | 1,14E+00 | -3,78E-01 | 1,10E-02 | 2,10E+01 |
| Secondary materials | kg | 8,69E-02 | 7,52E-04 | 1,18E-01 | 2,06E-01 | 2,63E-04 | 1,34E-04 | MND | 0,00E+00 | 3,87E-04 | 4,95E-04 | 2,31E-06 | -1,34E+00 |
| Renew. secondary fuels | MJ | 4,39E-06 | 8,06E-06 | 2,29E-01 | 2,29E-01 | 2,66E-06 | 8,16E-07 | MND | 0,00E+00 | 4,26E-06 | 2,54E-05 | 6,02E-08 | 2,14E-04 |
| Non-ren. secondary fuels | MJ | 7,39E-22 | 0,00E+00 | 0,00E+00 | 7,39E-22 | 0,00E+00 | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Use of net fresh water | m³ | 1,75E-02 | 2,77E-04 | 2,03E-02 | 3,81E-02 | 1,23E-04 | 1,04E-04 | MND | 0,00E+00 | 1,45E-04 | 4,33E-04 | 1,20E-05 | 5,59E-03 |

8) PER = Primary energy resources.

ENVIRONMENTAL PRODUCT DECLARATION

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



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 | 6,31E-02 | 2,51E-03 | 1,68E-02 | 8,25E-02 | 1,26E-03 | 7,69E-04 | MND | 0,00E+00 | 1,29E-03 | 2,90E-03 | 0,00E+00 | 7,78E-01 |
| Non-hazardous waste | kg | 6,11E-01 | 4,39E-02 | 3,70E-01 | 1,02E+00 | 2,07E-02 | 2,61E-02 | MND | 0,00E+00 | 2,30E-02 | 1,45E-01 | 7,60E-02 | 4,02E+00 |
| Radioactive waste | kg | 6,96E-04 | 1,51E-05 | 2,76E-04 | 9,87E-04 | 6,34E-06 | 1,71E-06 | MND | 0,00E+00 | 7,83E-06 | 2,50E-06 | 0,00E+00 | -4,32E-07 |

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 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 | 0,00E+00 |
| Materials for recycling | kg | 2,67E-01 | 0,00E+00 | 0,00E+00 | 2,67E-01 | 0,00E+00 | 9,50E-02 | MND | 0,00E+00 | 0,00E+00 | 1,44E+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 | 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 | 0,00E+00 | MND | 0,00E+00 | 0,00E+00 | 1,18E+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 | 3,98E+00 | 4,12E-01 | 3,66E-01 | 4,76E+00 | 6,25E-02 | 1,83E-02 | MND | 0,00E+00 | 7,58E-02 | 1,55E-01 | 3,92E-04 | 2,26E+00 |
| Ozone depletion Pot. | kg CFC ₃ e | 2,54E-08 | 7,35E-08 | 2,64E-08 | 1,25E-07 | 1,15E-08 | 2,09E-09 | MND | 0,00E+00 | 1,40E-08 | 3,39E-09 | 1,28E-10 | 1,04E-07 |
| Acidification | kg SO ₂ e | 8,25E-03 | 3,41E-03 | 1,11E-03 | 1,28E-02 | 2,08E-04 | 5,09E-05 | MND | 0,00E+00 | 1,78E-04 | 3,43E-04 | 2,84E-06 | 8,14E-03 |
| Eutrophication | kg PO ₄ e | 1,36E-03 | 4,56E-04 | 6,56E-04 | 2,47E-03 | 4,73E-05 | 4,41E-05 | MND | 0,00E+00 | 3,85E-05 | 1,21E-04 | 6,13E-07 | 4,03E-03 |
| POCP ("smog") | kg C ₂ H ₄ e | 1,37E-03 | 1,06E-04 | 1,08E-04 | 1,59E-03 | 8,11E-06 | 3,70E-06 | MND | 0,00E+00 | 9,00E-06 | 1,26E-05 | 1,19E-07 | 1,34E-03 |
| ADP-elements | kg Sbe | 3,00E-05 | 1,24E-06 | 2,07E-06 | 3,33E-05 | 1,43E-07 | 8,03E-08 | MND | 0,00E+00 | 2,70E-07 | 4,24E-06 | 9,06E-10 | 4,41E-05 |
| ADP-fossil | MJ | 4,62E+01 | 5,94E+00 | 1,74E+01 | 6,95E+01 | 9,48E-01 | 2,55E-01 | MND | 0,00E+00 | 1,14E+00 | 4,49E-01 | 1,10E-02 | 2,10E+01 |

ENVIRONMENTAL PRODUCT DECLARATION

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

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 compliance 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.

Elma Avdyli, as an authorized verifier acting for EPD Hub Limited

11.03.2024



ENVIRONMENTAL PRODUCT DECLARATION

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



APPENDIX A: PRODUCT VARIATIONS

As mentioned in earlier sections, the table in this appendix can be used to convert the results of the LCA presented in this EPD to specific sizes and configurations of the basic 4 that are available at HAGAB. The environmental impact for each unique article can thus be calculated by multiplying the results presented in this EPD by the corresponding conversion factor.

| Article | Name | Diameter (mm) | Length (mm) | Weight (kg) | Conversion factor |
|---------|--------------------------|---------------|-------------|-------------|-------------------|
| BA40101 | Basic 4 with Iris Damper | 100 | 353 | 1,29 | 0,7759 |
| BA40121 | Basic 4 with Iris Damper | 125 | 416 | 1,63 | 1,0000 |
| BA40161 | Basic 4 with Iris Damper | 160 | 445 | 2,24 | 1,3514 |
| BA40201 | Basic 4 with Iris Damper | 200 | 598 | 3,28 | 2,0212 |
| BA40251 | Basic 4 with Iris Damper | 250 | 575 | 4,70 | 3,2005 |
| BA40311 | Basic 4 with Iris Damper | 315 | 652 | 6,37 | 4,2241 |
| BA4010 | Basic 4 | 100 | 248 | 0,59 | 0,6014 |
| BA4012 | Basic 4 | 125 | 276 | 0,80 | 0,7901 |
| BA4016 | Basic 4 | 160 | 297 | 1,08 | 1,0920 |
| BA4020 | Basic 4 | 200 | 378 | 1,59 | 1,5684 |
| BA4025 | Basic 4 | 250 | 470 | 2,47 | 2,6840 |
| BA4031 | Basic 4 | 315 | 545 | 3,46 | 3,5660 |

