

Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80



Product: 3072502 - KG Branch 45° DN250xDN250 FIN
 Unit: 1 piece
 Manufacturer: Wavin - PL -Buk - Extra products

LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 08-06-2023
 End of validity: 08-06-2028
 Verifier: Martijn van Hövell - SGS Search



This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL -Buk - Extra products (2020). (☑ = module declared, MND = module not declared).

| A1 | A2 | A3 | A4 | A5 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | C1 | C2 | C3 | C4 | D |
|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|---|
| ☑ | ☑ | ☑ | MND | MND | MND | MND | MND | MND | MND | MND | MND | MND | ☑ | ☑ | ☑ | ☑ |

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
 A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
 B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
 C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

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Results

| Environmental impact | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|----------------------|--------------|----------|----------|----------|----------|----------|---------|----------|----------|----------|
| GWP-total | kg CO2 eq | 9.37E+0 | 6.85E-1 | 1.45E-4 | 1.01E+1 | 1.69E-1 | 8.77E+0 | 5.25E-2 | -7.33E+0 | 1.17E+1 |
| GWP-f | kg CO2 eq | 1.87E+1 | 6.84E-1 | 1.46E-4 | 1.94E+1 | 1.69E-1 | 4.98E+0 | 5.25E-2 | -8.32E+0 | 1.63E+1 |
| GWP-b | kg CO2 eq | -9.43E+0 | 4.16E-4 | -1.54E-6 | -9.43E+0 | 1.03E-4 | 3.79E+0 | 6.83E-5 | 1.00E+0 | -4.65E+0 |
| GWP-luluc | kg CO2 eq | 8.05E-2 | 2.42E-4 | 1.49E-7 | 8.07E-2 | 5.98E-5 | 2.21E-3 | 1.33E-6 | -1.36E-2 | 6.94E-2 |
| ODP | kg CFC11 eq | 8.01E-6 | 1.58E-7 | 8.26E-12 | 8.17E-6 | 3.89E-8 | 6.24E-7 | 1.99E-9 | -3.78E-6 | 5.06E-6 |
| AP | mol H+ eq | 9.29E-2 | 3.90E-3 | 1.47E-6 | 9.68E-2 | 9.62E-4 | 1.06E-2 | 4.82E-5 | -3.53E-2 | 7.32E-2 |
| EP-fw | kg P eq | 8.48E-4 | 5.63E-6 | 8.24E-9 | 8.53E-4 | 1.39E-6 | 7.43E-5 | 6.11E-8 | -3.78E-4 | 5.51E-4 |
| EP-m | kg N eq | 1.83E-2 | 1.40E-3 | 1.55E-7 | 1.97E-2 | 3.44E-4 | 2.63E-3 | 3.07E-5 | -6.69E-3 | 1.60E-2 |
| EP-T | mol N eq | 2.00E-1 | 1.54E-2 | 1.85E-6 | 2.16E-1 | 3.79E-3 | 2.90E-2 | 1.93E-4 | -7.31E-2 | 1.76E-1 |
| POCP | kg NMVOC eq | 6.67E-2 | 4.40E-3 | 6.28E-7 | 7.11E-2 | 1.08E-3 | 8.65E-3 | 6.62E-5 | -2.42E-2 | 5.67E-2 |
| ADP-mm | kg Sb eq | 1.38E-2 | 1.77E-5 | 1.97E-8 | 1.38E-2 | 4.37E-6 | 4.18E-5 | 4.77E-8 | -1.62E-4 | 1.37E-2 |
| ADP-f | MJ | 4.29E+2 | 1.05E+1 | 1.36E-3 | 4.39E+2 | 2.59E+0 | 2.82E+1 | 1.45E-1 | -1.94E+2 | 2.76E+2 |
| WDP | m3 depriv. | 2.88E+1 | 3.22E-2 | 5.22E-5 | 2.88E+1 | 7.96E-3 | 1.12E+0 | 6.65E-4 | -1.20E+1 | 1.79E+1 |
| PM | disease inc. | 8.83E-7 | 6.18E-8 | 9.08E-12 | 9.45E-7 | 1.52E-8 | 1.31E-7 | 1.00E-9 | -3.32E-7 | 7.60E-7 |
| IR | kBq U-235 eq | 1.03E+0 | 4.59E-2 | 1.02E-6 | 1.08E+0 | 1.13E-2 | 1.01E-1 | 6.73E-4 | -4.22E-1 | 7.70E-1 |
| ETP-fw | CTUe | 5.69E+2 | 8.53E+0 | 1.21E-2 | 5.77E+2 | 2.11E+0 | 2.21E+2 | 2.44E+0 | -1.93E+2 | 6.11E+2 |
| HTP-c | CTUh | 2.12E-8 | 3.04E-10 | 6.17E-13 | 2.15E-8 | 7.49E-11 | 3.01E-9 | 3.83E-12 | -5.63E-9 | 1.90E-8 |
| HTP-nc | CTUh | 4.95E-7 | 1.02E-8 | 1.57E-11 | 5.05E-7 | 2.51E-9 | 7.59E-8 | 4.63E-10 | -1.63E-7 | 4.21E-7 |
| SQP | Pt | 9.14E+2 | 8.99E+0 | 2.24E-3 | 9.23E+2 | 2.22E+0 | 1.71E+1 | 3.74E-1 | -4.41E+2 | 5.02E+2 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| PERE | MJ | 1.78E+2 | 1.51E-1 | 2.40E-2 | 1.78E+2 | 3.72E-2 | 2.04E+0 | 5.58E-3 | -7.67E+1 | 1.03E+2 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1.78E+2 | 1.51E-1 | 2.40E-2 | 1.78E+2 | 3.72E-2 | 2.04E+0 | 5.58E-3 | -7.67E+1 | 1.03E+2 |
| PENRE | MJ | 4.59E+2 | 1.12E+1 | 1.44E-3 | 4.70E+2 | 2.75E+0 | 3.00E+1 | 1.54E-1 | -2.09E+2 | 2.94E+2 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 4.59E+2 | 1.12E+1 | 1.44E-3 | 4.70E+2 | 2.75E+0 | 3.00E+1 | 1.54E-1 | -2.09E+2 | 2.94E+2 |
| PET | MJ | 6.37E+2 | 1.13E+1 | 2.55E-2 | 6.48E+2 | 2.79E+0 | 3.21E+1 | 1.60E-1 | -2.86E+2 | 3.97E+2 |
| SM | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 4.16E-1 | 1.19E-3 | 1.46E-6 | 4.17E-1 | 2.93E-4 | 3.07E-2 | 1.80E-4 | -1.52E-1 | 2.97E-1 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|-----------------------------------|------|---------|---------|----------|---------|---------|---------|---------|----------|---------|
| HWD | kg | 2.07E-3 | 2.69E-5 | 2.73E-13 | 2.10E-3 | 6.63E-6 | 4.66E-5 | 1.75E-7 | -1.79E-4 | 1.97E-3 |
| NHWD | kg | 2.67E+0 | 6.51E-1 | 1.05E-6 | 3.32E+0 | 1.61E-1 | 1.02E+0 | 6.42E-1 | -7.68E-1 | 4.38E+0 |
| RWD | kg | 9.96E-4 | 7.15E-5 | 1.10E-13 | 1.07E-3 | 1.76E-5 | 1.09E-4 | 9.50E-7 | -3.84E-4 | 8.11E-4 |
| CRU | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MFR | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MER | kg | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EE | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EET | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EEE | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



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