

Environmental Profile

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

Ecochain v3.5.64



Product: 3027855 - Tigris K1 T-Reduced 63x32x63
 Unit: 1 Piece
 Manufacturer: Wavin - DE - Twist - Handmade

LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 29-11-2022
 End of validity: 29-11-2027
 Verifier: Martijn van Hövell - SGS Search



Wavin Tigris K1 is proven and perfected to deliver high performance and significant cost savings in a wide range of commercial plumbing and heating projects. Its patented design has been relentlessly engineered to optimise all the benefits of a composite metal-plastic press-fit system and deliver the optimum solution for sanitary, potable water and heating applications, including re-circulating systems.

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 - DE - Twist - Handmade (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 | 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 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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]

Statement of Confidentiality

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Results

| Environmental impact | Unit | A1 | A2 | A3 | A1-A3 | Total |
|----------------------|--------------|----------|----------|----------|----------|----------|
| GWP-total | kg CO2 eq | 3.47E+0 | 1.33E-2 | 6.39E-3 | 3.49E+0 | 3.49E+0 |
| GWP-f | kg CO2 eq | 3.69E+0 | 1.33E-2 | 4.70E-3 | 3.71E+0 | 3.71E+0 |
| GWP-b | kg CO2 eq | -2.27E-1 | 8.05E-6 | 1.68E-3 | -2.25E-1 | -2.25E-1 |
| GWP-luluc | kg CO2 eq | 4.11E-3 | 4.69E-6 | 7.26E-6 | 4.12E-3 | 4.12E-3 |
| ODP | kg CFC11 eq | 6.04E-7 | 3.06E-9 | 7.19E-10 | 6.07E-7 | 6.07E-7 |
| AP | mol H+ eq | 2.25E-2 | 7.56E-5 | 3.90E-5 | 2.26E-2 | 2.26E-2 |
| EP-fw | kg P eq | 1.64E-4 | 1.09E-7 | 1.68E-7 | 1.64E-4 | 1.64E-4 |
| EP-m | kg N eq | 3.78E-3 | 2.70E-5 | 1.86E-5 | 3.82E-3 | 3.82E-3 |
| EP-T | mol N eq | 4.28E-2 | 2.98E-4 | 1.74E-4 | 4.32E-2 | 4.32E-2 |
| POCP | kg NMVOC eq | 1.72E-2 | 8.52E-5 | 4.86E-5 | 1.73E-2 | 1.73E-2 |
| ADP-mm | kg Sb eq | 1.13E-4 | 3.43E-7 | 3.48E-8 | 1.13E-4 | 1.13E-4 |
| ADP-f | MJ | 5.67E+1 | 2.04E-1 | 4.84E-2 | 5.70E+1 | 5.70E+1 |
| WDP | m3 depriv. | 1.95E+0 | 6.25E-4 | 6.32E-2 | 2.01E+0 | 2.01E+0 |
| PM | disease inc. | 2.47E-7 | 1.20E-9 | 1.02E-9 | 2.49E-7 | 2.49E-7 |
| IR | kBq U-235 eq | 1.43E-1 | 8.90E-4 | 2.35E-4 | 1.44E-1 | 1.44E-1 |
| ETP-fw | CTUe | 3.65E+2 | 1.65E-1 | 1.13E-1 | 3.65E+2 | 3.65E+2 |
| HTP-c | CTUh | 4.10E-8 | 5.88E-12 | 4.88E-12 | 4.10E-8 | 4.10E-8 |
| HTP-nc | CTUh | 1.32E-7 | 1.97E-10 | 8.34E-11 | 1.32E-7 | 1.32E-7 |
| SQP | Pt | 3.77E+1 | 1.74E-1 | 2.19E-2 | 3.79E+1 | 3.79E+1 |
| Resource use | Unit | A1 | A2 | A3 | A1-A3 | Total |
| PERE | MJ | 1.02E+1 | 2.92E-3 | 4.36E-3 | 1.02E+1 | 1.02E+1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1.02E+1 | 2.92E-3 | 4.36E-3 | 1.02E+1 | 1.02E+1 |
| PENRE | MJ | 6.05E+1 | 2.16E-1 | 5.07E-2 | 6.08E+1 | 6.08E+1 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 6.05E+1 | 2.16E-1 | 5.07E-2 | 6.08E+1 | 6.08E+1 |
| PET | MJ | 7.07E+1 | 2.19E-1 | 5.51E-2 | 7.10E+1 | 7.10E+1 |
| SM | kg | 0 | 0 | 0 | 0 | 0 |
| RSF | MJ | 0 | 0 | 0 | 0 | 0 |
| NRSF | MJ | 0 | 0 | 0 | 0 | 0 |
| FW | m3 | 5.30E-2 | 2.30E-5 | 1.48E-3 | 5.45E-2 | 5.45E-2 |

| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | Total |
|-----------------------------------|------|---------|---------|---------|---------|---------|
| HWD | kg | 7.31E-5 | 5.21E-7 | 1.46E-7 | 7.38E-5 | 7.38E-5 |
| NHWD | kg | 2.96E+0 | 1.26E-2 | 1.21E-3 | 2.98E+0 | 2.98E+0 |
| RWD | kg | 1.34E-4 | 1.38E-6 | 3.59E-7 | 1.36E-4 | 1.36E-4 |
| CRU | kg | 0 | 0 | 0 | 0 | 0 |
| MFR | kg | 0 | 0 | 0 | 0 | 0 |
| MER | kg | 0 | 0 | 0 | 0 | 0 |
| EE | MJ | 0 | 0 | 0 | 0 | 0 |
| EET | MJ | 0 | 0 | 0 | 0 | 0 |
| EEE | MJ | 0 | 0 | 0 | 0 | 0 |



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