# Environmental Profile

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

Ecochain v3.5.80

| | |
|---|---|
| Product: | 3083471 - EK PP-RCT SOCKET GY 50 |
| Unit: | 1 piece |
| Manufacturer: | Wavin - CZ - Kostelec - Verified |

Use the Ekoplastik System when you prefer an all plastic welded system or when you need pipes with larger diameters. The Ekoplastik system offers a maximum pipe diameter of 250 mm. Join pipes and fittings using a homogenous weld for secure and permanent connections.

| | |
|---|---|
| LCA standard: | NMD Bepalingsmethode 1.1 (2022) |
| Standard database: | Worldwide - Ecoinvent v 3.6 Cut-Off |
| Externally verified: | Yes |
| Issue date: | 27-01-2023 |
| End of validity: | 27-01-2028 |
| 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 - CZ - Kostelec - Verified (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

**ECI** = Environmental Costs Indicator [euro]; **ADPE** = Abiotic depletion potential for non-fossil resources [kg Sb-eq]; **ADPF** = Abiotic depletion potential for fossil resources [kg Sb-eq]; **GWP** = Global warming potential [kg CO2-eq]; **ODP** = Depletion potential of the stratospheric ozone layer [kg CFC-11-eq]; **POCP** = Formation potential of tropospheric ozone photochemical oxidants [kg ethene-eq]; **AP** = Acidification potential of land and water [kg SO2-eq]; **EP** = Eutrophication potential [kg PO4 3−-eq]; **HTP** = Human toxicity potential [kg 1,4-DB-eq]; **FAETP** = Freshwater aquatic ecotoxicity potential [kg 1,4-DB-eq]; **MAETP** = Marine aquatic ecotoxicity potential [kg 1,4-DB-eq]; **TETP** = Terrestrial ecotoxicity potential [kg 1,4-DB-eq]; **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]

## Statement of Confidentiality

# Results

| Environmental impact SBK set 1 | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| ECI | euro | 0.01 | 0 | 0 | 0.02 | 0 | 0 | 0 | -0.01 | 0.01 |
| ADPE | kg Sb-eq | 2.32E-6 | 2.19E-7 | 8.90E-7 | 3.43E-6 | 4.63E-8 | 2.25E-7 | 5.14E-10 | -5.73E-7 | 3.13E-6 |
| ADPF | kg Sb-eq | 2.38E-3 | 6.16E-5 | 6.70E-5 | 2.51E-3 | 1.30E-5 | 8.65E-5 | 7.15E-7 | -1.30E-3 | 1.30E-3 |
| GWP | kg CO2-eq | 1.38E-1 | 8.39E-3 | 1.21E-2 | 1.59E-1 | 1.78E-3 | 5.64E-2 | 7.20E-4 | -8.42E-2 | 1.33E-1 |
| ODP | kg CFC-11-eq | 3.29E-9 | 1.56E-9 | 2.07E-8 | 2.56E-8 | 3.29E-10 | 1.15E-9 | 1.71E-11 | -3.36E-9 | 2.37E-8 |
| POCP | kg ethene-eq | 1.15E-4 | 5.03E-6 | 8.73E-6 | 1.29E-4 | 1.07E-6 | 8.66E-6 | 1.64E-7 | -5.53E-5 | 8.33E-5 |
| AP | kg SO2-eq | 4.42E-4 | 3.61E-5 | 8.32E-5 | 5.61E-4 | 7.64E-6 | 4.42E-5 | 3.77E-7 | -2.07E-4 | 4.06E-4 |
| EP | kg PO4 3−-eq | 4.25E-5 | 7.21E-6 | 1.07E-5 | 6.04E-5 | 1.53E-6 | 7.84E-6 | 1.64E-7 | -2.11E-5 | 4.88E-5 |
| HTP | kg 1,4-DB-eq | 2.26E-2 | 3.59E-3 | 1.47E-2 | 4.08E-2 | 7.59E-4 | 1.76E-2 | 5.62E-5 | -1.05E-2 | 4.87E-2 |
| FAETP | kg 1,4-DB-eq | 6.50E-4 | 1.05E-4 | 5.30E-4 | 1.29E-3 | 2.22E-5 | 4.00E-4 | 6.07E-5 | -2.77E-4 | 1.49E-3 |
| MAETP | kg 1,4-DB-eq | 1.54E+0 | 3.75E-1 | 1.48E+0 | 3.39E+0 | 7.95E-2 | 9.08E-1 | 6.06E-2 | -6.41E-1 | 3.80E+0 |
| TETP | kg 1,4-DB-eq | 1.01E-4 | 1.27E-5 | 7.68E-4 | 8.81E-4 | 2.69E-6 | 5.40E-5 | 9.24E-8 | -6.75E-5 | 8.71E-4 |
| Environmental impact | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| GWP-total | kg CO2 eq | 1.45E-1 | 8.46E-3 | 1.43E-2 | 1.68E-1 | 1.79E-3 | 5.79E-2 | 8.43E-4 | -8.43E-2 | 1.44E-1 |
| GWP-f | kg CO2 eq | 1.44E-1 | 8.45E-3 | 1.16E-2 | 1.64E-1 | 1.79E-3 | 5.66E-2 | 8.43E-4 | -8.72E-2 | 1.36E-1 |
| GWP-b | kg CO2 eq | 5.31E-4 | 5.13E-6 | 2.58E-3 | 3.12E-3 | 1.09E-6 | 1.30E-3 | 7.32E-7 | 2.86E-3 | 7.28E-3 |
| GWP-luluc | kg CO2 eq | 5.84E-5 | 2.99E-6 | 1.82E-4 | 2.43E-4 | 6.34E-7 | 1.02E-5 | 1.47E-8 | -3.81E-5 | 2.16E-4 |
| ODP | kg CFC11 eq | 3.18E-9 | 1.95E-9 | 1.16E-8 | 1.67E-8 | 4.12E-10 | 1.36E-9 | 2.12E-11 | -3.54E-9 | 1.49E-8 |
| AP | mol H+ eq | 5.34E-4 | 4.82E-5 | 1.05E-4 | 6.87E-4 | 1.02E-5 | 5.71E-5 | 5.07E-7 | -2.50E-4 | 5.04E-4 |
| EP-fw | kg P eq | 2.39E-6 | 6.96E-8 | 3.82E-7 | 2.84E-6 | 1.47E-8 | 2.94E-7 | 6.69E-10 | -1.19E-6 | 1.96E-6 |
| EP-m | kg N eq | 9.06E-5 | 1.72E-5 | 1.95E-5 | 1.27E-4 | 3.65E-6 | 1.68E-5 | 3.26E-7 | -4.52E-5 | 1.03E-4 |
| EP-T | mol N eq | 1.02E-3 | 1.90E-4 | 2.41E-4 | 1.45E-3 | 4.02E-5 | 1.85E-4 | 2.05E-6 | -5.02E-4 | 1.18E-3 |
| POCP | kg NMVOC eq | 4.51E-4 | 5.43E-5 | 5.59E-5 | 5.61E-4 | 1.15E-5 | 5.83E-5 | 7.70E-7 | -2.23E-4 | 4.09E-4 |
| ADP-mm | kg Sb eq | 2.32E-6 | 2.19E-7 | 8.90E-7 | 3.43E-6 | 4.63E-8 | 2.25E-7 | 5.14E-10 | -5.73E-7 | 3.13E-6 |
| ADP-f | MJ | 4.98E+0 | 1.30E-1 | 2.93E+0 | 8.04E+0 | 2.75E-2 | 1.78E-1 | 1.55E-3 | -2.69E+0 | 5.55E+0 |
| WDP | m3 depriv. | 1.01E-1 | 3.98E-4 | 5.11E-2 | 1.53E-1 | 8.43E-5 | 3.45E-3 | 9.00E-6 | -5.01E-2 | 1.06E-1 |
| PM | disease inc. | 4.73E-9 | 7.63E-10 | 8.68E-10 | 6.36E-9 | 1.62E-10 | 9.35E-10 | 1.06E-11 | -2.26E-9 | 5.21E-9 |
| IR | kBq U-235 eq | 2.77E-3 | 5.67E-4 | 3.43E-2 | 3.76E-2 | 1.20E-4 | 5.41E-4 | 7.15E-6 | -1.42E-3 | 3.69E-2 |
| ETP-fw | CTUe | 1.23E+0 | 1.05E-1 | 9.81E-1 | 2.32E+0 | 2.23E-2 | 2.04E-1 | 1.30E-3 | -5.65E-1 | 1.98E+0 |
| HTP-c | CTUh | 3.59E-11 | 3.75E-12 | 2.12E-11 | 6.08E-11 | 7.94E-13 | 2.54E-11 | 3.87E-14 | -1.58E-11 | 7.12E-11 |
| HTP-nc | CTUh | 9.96E-10 | 1.26E-10 | 6.70E-10 | 1.79E-9 | 2.66E-11 | 3.04E-10 | 8.39E-13 | -4.57E-10 | 1.67E-9 |
| SQP | Pt | 3.25E-1 | 1.11E-1 | 8.02E-1 | 1.24E+0 | 2.35E-2 | 1.42E-1 | 3.97E-3 | -6.36E-1 | 7.72E-1 |

| Resource use | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| PERE | MJ | 1.02E-1 | 1.86E-3 | 4.14E-1 | 5.18E-1 | 3.94E-4 | 8.72E-3 | 5.93E-5 | -1.35E-1 | 3.92E-1 |
| PERM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERT | MJ | 1.02E-1 | 1.86E-3 | 4.14E-1 | 5.18E-1 | 3.94E-4 | 8.72E-3 | 5.93E-5 | -1.35E-1 | 3.92E-1 |
| PENRE | MJ | 5.34E+0 | 1.38E-1 | 2.94E+0 | 8.42E+0 | 2.92E-2 | 1.90E-1 | 1.64E-3 | -2.90E+0 | 5.74E+0 |
| PENRM | MJ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PENRT | MJ | 5.34E+0 | 1.38E-1 | 2.94E+0 | 8.42E+0 | 2.92E-2 | 1.90E-1 | 1.64E-3 | -2.90E+0 | 5.74E+0 |
| PET | MJ | 5.45E+0 | 1.40E-1 | 3.35E+0 | 8.94E+0 | 2.96E-2 | 1.98E-1 | 1.70E-3 | -3.04E+0 | 6.13E+0 |
| 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 | 1.59E-3 | 1.47E-5 | 1.64E-3 | 3.24E-3 | 3.11E-6 | 1.03E-4 | 1.90E-6 | -8.01E-4 | 2.55E-3 |
| Output flows and waste categories | Unit | A1 | A2 | A3 | A1-A3 | C2 | C3 | C4 | D | Total |
| HWD | kg | 7.12E-7 | 3.32E-7 | 5.70E-8 | 1.10E-6 | 7.03E-8 | 2.94E-7 | 1.88E-9 | -6.90E-7 | 7.76E-7 |
| NHWD | kg | 6.55E-3 | 8.04E-3 | 1.63E-3 | 1.62E-2 | 1.70E-3 | 8.90E-3 | 6.81E-3 | -2.28E-3 | 3.13E-2 |
| RWD | kg | 2.42E-6 | 8.83E-7 | 8.53E-8 | 3.39E-6 | 1.87E-7 | 6.88E-7 | 1.01E-8 | -1.30E-6 | 2.97E-6 |
| 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 |

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777