

# Environmental Profile

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

Ecochain v3.5.80



Product: 3022995 - EK PPR Pipe GY 75x12,5 PN20 L=4  
Unit: 1 piece  
Manufacturer: Wavin - CZ - Horni Pocernice  
Location: Czechia  
Address: Do Čertous 2659  
193 00 Horní Počernice  
Czech Republic

LCA standard: EN15804+A2 (2019)  
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off  
Externally verified: Yes  
Issue date: 04-10-2022  
End of validity: 04-10-2027  
Verifier: Martijn van Hövell - SGS Search



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.

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 - Horni Pocernice (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                                                                |    |    |     |     | Use stage                                                                                                             |     |     |     |     |     |     | End-of-Life stage                                                             |    |    |    |   |
| A1 Raw material supply A2 Transport A3 Manufacturing                         |    |    |     |     | B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment<br>B6 Operational energy use B7 Operational water use |     |     |     |     |     |     | C1 De-construction demolition C2 Transport C3 Waste processing<br>C4 Disposal |    |    |    |   |
| Construction process stage                                                   |    |    |     |     |                                                                                                                       |     |     |     |     |     |     | Benefits and loads beyond the system boundaries                               |    |    |    |   |
| A4 Transport gate to site<br>A5 Assembly / Construction installation process |    |    |     |     |                                                                                                                       |     |     |     |     |     |     | 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]

## Statement of Confidentiality

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# Results

| Environmental impact | Unit         | A1      | A2       | A3       | A1-A3   | C2       | C3       | C4       | D        | Total   |
|----------------------|--------------|---------|----------|----------|---------|----------|----------|----------|----------|---------|
| GWP-total            | kg CO2 eq    | 1.90E+1 | 2.10E+0  | 3.02E-1  | 2.14E+1 | 2.44E-1  | 7.30E+0  | 1.15E-1  | -1.15E+1 | 1.76E+1 |
| GWP-f                | kg CO2 eq    | 1.89E+1 | 2.10E+0  | 2.45E-1  | 2.12E+1 | 2.44E-1  | 7.31E+0  | 1.15E-1  | -1.14E+1 | 1.75E+1 |
| GWP-b                | kg CO2 eq    | 7.82E-2 | 1.28E-3  | 5.15E-2  | 1.31E-1 | 1.48E-4  | -9.77E-3 | 9.98E-5  | -3.96E-2 | 8.18E-2 |
| GWP-luluc            | kg CO2 eq    | 5.16E-3 | 7.43E-4  | 4.93E-3  | 1.08E-2 | 8.62E-5  | 1.37E-3  | 1.98E-6  | -2.19E-3 | 1.01E-2 |
| ODP                  | kg CFC11 eq  | 3.56E-7 | 4.84E-7  | 3.08E-7  | 1.15E-6 | 5.61E-8  | 1.78E-7  | 2.88E-9  | -4.30E-7 | 9.56E-7 |
| AP                   | mol H+ eq    | 6.84E-2 | 1.20E-2  | 2.71E-3  | 8.30E-2 | 1.39E-3  | 7.50E-3  | 6.88E-5  | -3.18E-2 | 6.01E-2 |
| EP-fw                | kg P eq      | 2.84E-4 | 1.73E-5  | 1.23E-5  | 3.14E-4 | 2.00E-6  | 3.95E-5  | 9.03E-8  | -1.25E-4 | 2.31E-4 |
| EP-m                 | kg N eq      | 1.13E-2 | 4.28E-3  | 5.23E-4  | 1.61E-2 | 4.96E-4  | 2.18E-3  | 4.46E-5  | -5.64E-3 | 1.32E-2 |
| EP-T                 | mol N eq     | 1.29E-1 | 4.72E-2  | 6.13E-3  | 1.82E-1 | 5.47E-3  | 2.41E-2  | 2.79E-4  | -6.24E-2 | 1.50E-1 |
| POCP                 | kg NMVOC eq  | 5.84E-2 | 1.35E-2  | 1.35E-3  | 7.32E-2 | 1.56E-3  | 7.60E-3  | 1.05E-4  | -2.88E-2 | 5.37E-2 |
| ADP-mm               | kg Sb eq     | 3.25E-4 | 5.43E-5  | 2.38E-5  | 4.03E-4 | 6.30E-6  | 2.97E-5  | 6.95E-8  | -7.49E-5 | 3.64E-4 |
| ADP-f                | MJ           | 6.65E+2 | 3.22E+1  | 7.89E+1  | 7.77E+2 | 3.74E+0  | 2.38E+1  | 2.10E-1  | -3.59E+2 | 4.46E+2 |
| WDP                  | m3 depriv.   | 1.33E+1 | 9.89E-2  | 1.26E+0  | 1.46E+1 | 1.15E-2  | 4.66E-1  | 1.14E-3  | -6.18E+0 | 8.94E+0 |
| PM                   | disease inc. | 5.97E-7 | 1.90E-7  | 1.99E-8  | 8.06E-7 | 2.20E-8  | 1.23E-7  | 1.45E-9  | -2.66E-7 | 6.87E-7 |
| IR                   | kBq U-235 eq | 3.46E-1 | 1.41E-1  | 9.34E-1  | 1.42E+0 | 1.63E-2  | 7.16E-2  | 9.74E-4  | -1.66E-1 | 1.34E+0 |
| ETP-fw               | CTUe         | 1.06E+2 | 2.62E+1  | 2.70E+1  | 1.60E+2 | 3.04E+0  | 2.68E+1  | 1.76E-1  | -4.42E+1 | 1.45E+2 |
| HTP-c                | CTUh         | 4.64E-9 | 9.31E-10 | 5.13E-10 | 6.09E-9 | 1.08E-10 | 3.30E-9  | 5.20E-12 | -1.89E-9 | 7.62E-9 |
| HTP-nc               | CTUh         | 1.26E-7 | 3.12E-8  | 1.75E-8  | 1.75E-7 | 3.62E-9  | 4.02E-8  | 1.14E-10 | -5.35E-8 | 1.65E-7 |
| SQP                  | Pt           | 2.68E+1 | 2.76E+1  | 2.15E+1  | 7.59E+1 | 3.20E+0  | 1.90E+1  | 5.40E-1  | -9.62E+0 | 8.91E+1 |
| Resource use         | Unit         | A1      | A2       | A3       | A1-A3   | C2       | C3       | C4       | D        | Total   |
| PERE                 | MJ           | 9.82E+0 | 4.62E-1  | 1.13E+1  | 2.15E+1 | 5.36E-2  | 1.17E+0  | 8.10E-3  | -4.43E+0 | 1.83E+1 |
| PERM                 | MJ           | 0       | 0        | 0        | 0       | 0        | 0        | 0        | 0        | 0       |
| PERT                 | MJ           | 9.82E+0 | 4.62E-1  | 1.13E+1  | 2.15E+1 | 5.36E-2  | 1.17E+0  | 8.10E-3  | -4.43E+0 | 1.83E+1 |
| PENRE                | MJ           | 7.14E+2 | 3.42E+1  | 7.91E+1  | 8.27E+2 | 3.97E+0  | 2.53E+1  | 2.23E-1  | -3.86E+2 | 4.70E+2 |
| PENRM                | MJ           | 0       | 0        | 0        | 0       | 0        | 0        | 0        | 0        | 0       |
| PENRT                | MJ           | 7.14E+2 | 3.42E+1  | 7.91E+1  | 8.27E+2 | 3.97E+0  | 2.53E+1  | 2.23E-1  | -3.86E+2 | 4.70E+2 |
| PET                  | MJ           | 7.24E+2 | 3.47E+1  | 9.04E+1  | 8.49E+2 | 4.02E+0  | 2.65E+1  | 2.31E-1  | -3.91E+2 | 4.89E+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           | 2.02E-1 | 3.65E-3  | 4.15E-2  | 2.47E-1 | 4.23E-4  | 1.37E-2  | 2.59E-4  | -9.25E-2 | 1.69E-1 |

| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD                               | kg   | 9.07E-5 | 8.24E-5 | 6.48E-7 | 1.74E-4 | 9.56E-6 | 3.87E-5 | 2.54E-7 | -8.44E-5 | 1.38E-4 |
| NHWD                              | kg   | 8.25E-1 | 2.00E+0 | 3.66E-3 | 2.83E+0 | 2.32E-1 | 1.18E+0 | 9.26E-1 | -2.75E-1 | 4.88E+0 |
| RWD                               | kg   | 3.00E-4 | 2.19E-4 | 8.77E-7 | 5.20E-4 | 2.54E-5 | 9.08E-5 | 1.37E-6 | -1.50E-4 | 4.88E-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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