

# Environmental Profile

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

Ecochain v3.5.71



Product: 3030696 - Hep20 Pb Straight Tap Connector WT 22X3/  
Unit: 1 piece  
Manufacturer: Wavin - UK - Doncaster - Verified

Suitable for various professional plumbing jobs. Hep20 is packed with unique features that make push-fit plumbing fitting easier quicker and more secure for installers. No additional equipment or tools required when installing or demounting fittings compared to others where a solder or glue is required. Just push the pipework into the fitting to create a watertight seal. A wide range of plastic fittings, plumbing pipes and tubes are available. It is the only system with joint recognition and se

LCA standard: EN15804+A2 (2019)  
Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off  
Externally verified: Yes  
Issue date: 09-02-2023  
End of validity: 09-02-2028  
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 - UK - Doncaster - 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                                        |    |    |     |     | Use stage                                                                                                          |     |     |     |     |     |     | End-of-Life stage                                                          |    |    |    |   |
| A1 Raw material supply A2 Transport A3 Manufacturing |    |    |     |     | B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use |     |     |     |     |     |     | C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal |    |    |    |   |
| Construction process stage                           |    |    |     |     |                                                                                                                    |     |     |     |     |     |     | Benefits and loads beyond the system boundaries                            |    |    |    |   |
| A4 Transport gate to site                            |    |    |     |     |                                                                                                                    |     |     |     |     |     |     |                                                                            |    |    |    |   |
| 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    | 5.82E-1  | 4.10E-3  | 3.62E-2  | 6.22E-1  | 1.19E-3  | 6.04E-2  | 5.38E-4  | -2.40E-1  | 4.43E-1 |
| GWP-f                | kg CO2 eq    | 5.85E-1  | 4.10E-3  | 3.34E-2  | 6.23E-1  | 1.19E-3  | 4.39E-2  | 5.38E-4  | -2.46E-1  | 4.23E-1 |
| GWP-b                | kg CO2 eq    | -3.89E-3 | 2.41E-6  | 2.75E-3  | -1.14E-3 | 7.20E-7  | 1.65E-2  | 5.34E-7  | 5.13E-3   | 2.05E-2 |
| GWP-luluc            | kg CO2 eq    | 2.23E-4  | 1.47E-6  | 1.06E-5  | 2.35E-4  | 4.20E-7  | 5.38E-6  | 1.10E-8  | -5.13E-5  | 1.90E-4 |
| ODP                  | kg CFC11 eq  | 1.77E-8  | 9.42E-10 | 3.97E-9  | 2.26E-8  | 2.73E-10 | 1.36E-9  | 1.47E-11 | -3.32E-9  | 2.09E-8 |
| AP                   | mol H+ eq    | 2.98E-3  | 2.58E-5  | 7.19E-5  | 3.07E-3  | 6.75E-6  | 5.37E-5  | 3.66E-7  | -9.02E-4  | 2.23E-3 |
| EP-fw                | kg P eq      | 1.89E-5  | 3.33E-8  | 2.17E-7  | 1.91E-5  | 9.76E-9  | 2.30E-7  | 4.97E-10 | -4.15E-6  | 1.52E-5 |
| EP-m                 | kg N eq      | 6.73E-4  | 8.91E-6  | 1.63E-5  | 6.99E-4  | 2.42E-6  | 1.62E-5  | 6.65E-7  | -2.01E-4  | 5.17E-4 |
| EP-T                 | mol N eq     | 5.58E-3  | 9.82E-5  | 1.53E-4  | 5.83E-3  | 2.66E-5  | 1.78E-4  | 1.45E-6  | -2.05E-3  | 3.99E-3 |
| POCP                 | kg NMVOC eq  | 1.80E-3  | 2.78E-5  | 5.01E-5  | 1.88E-3  | 7.61E-6  | 5.19E-5  | 5.29E-7  | -7.87E-4  | 1.15E-3 |
| ADP-mm               | kg Sb eq     | 1.32E-5  | 1.04E-7  | 2.83E-7  | 1.36E-5  | 3.07E-8  | 2.20E-7  | 3.63E-10 | -1.49E-6  | 1.23E-5 |
| ADP-f                | MJ           | 7.61E+0  | 6.27E-2  | 4.78E-1  | 8.15E+0  | 1.82E-2  | 1.37E-1  | 1.08E-3  | -2.82E+0  | 5.48E+0 |
| WDP                  | m3 depriv.   | 3.24E-1  | 1.90E-4  | 4.38E-3  | 3.29E-1  | 5.59E-5  | 2.49E-3  | 6.92E-6  | -7.90E-2  | 2.52E-1 |
| PM                   | disease inc. | 2.95E-8  | 3.65E-10 | 5.28E-10 | 3.04E-8  | 1.07E-10 | 7.69E-10 | 7.39E-12 | -9.60E-9  | 2.16E-8 |
| IR                   | kBq U-235 eq | 9.56E-3  | 2.74E-4  | 3.90E-4  | 1.02E-2  | 7.96E-5  | 4.73E-4  | 5.19E-6  | -2.36E-4  | 1.05E-2 |
| ETP-fw               | CTUe         | 7.98E+0  | 5.07E-2  | 3.58E-1  | 8.39E+0  | 1.48E-2  | 2.46E-1  | 2.22E-3  | -2.00E+0  | 6.66E+0 |
| HTP-c                | CTUh         | 2.48E-9  | 1.83E-12 | 1.51E-11 | 2.49E-9  | 5.26E-13 | 1.77E-11 | 3.00E-14 | -2.74E-11 | 2.49E-9 |
| HTP-nc               | CTUh         | 8.66E-9  | 6.01E-11 | 3.11E-10 | 9.03E-9  | 1.76E-11 | 2.79E-10 | 9.14E-13 | 5.51E-9   | 1.48E-8 |
| SQP                  | Pt           | 2.18E+0  | 5.28E-2  | 5.19E-2  | 2.29E+0  | 1.56E-2  | -3.15E-1 | 2.74E-3  | -1.96E+0  | 2.67E-2 |
| Resource use         | Unit         | A1       | A2       | A3       | A1-A3    | C2       | C3       | C4       | D         | Total   |
| PERE                 | MJ           | 7.09E-1  | 8.90E-4  | 6.56E-1  | 1.37E+0  | 2.61E-4  | -5.65E-2 | 4.86E-5  | -3.53E-1  | 9.57E-1 |
| PERM                 | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0       |
| PERT                 | MJ           | 7.09E-1  | 8.90E-4  | 6.56E-1  | 1.37E+0  | 2.61E-4  | -5.65E-2 | 4.86E-5  | -3.53E-1  | 9.57E-1 |
| PENRE                | MJ           | 8.17E+0  | 6.65E-2  | 5.25E-1  | 8.76E+0  | 1.93E-2  | 1.45E-1  | 1.15E-3  | -3.05E+0  | 5.88E+0 |
| PENRM                | MJ           | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0       |
| PENRT                | MJ           | 8.17E+0  | 6.65E-2  | 5.25E-1  | 8.76E+0  | 1.93E-2  | 1.45E-1  | 1.15E-3  | -3.05E+0  | 5.88E+0 |
| PET                  | MJ           | 8.88E+0  | 6.74E-2  | 1.18E+0  | 1.01E+1  | 1.96E-2  | 8.89E-2  | 1.20E-3  | -3.40E+0  | 6.83E+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           | 8.07E-3  | 7.02E-6  | 1.28E-4  | 8.21E-3  | 2.06E-6  | 8.61E-5  | 1.34E-6  | -1.86E-3  | 6.44E-3 |

| Output flows and waste categories | Unit | A1      | A2      | A3      | A1-A3   | C2      | C3      | C4      | D        | Total   |
|-----------------------------------|------|---------|---------|---------|---------|---------|---------|---------|----------|---------|
| HWD                               | kg   | 5.01E-6 | 1.58E-7 | 5.31E-7 | 5.70E-6 | 4.66E-8 | 2.61E-7 | 1.31E-9 | -4.22E-6 | 1.79E-6 |
| NHWD                              | kg   | 1.93E-1 | 3.82E-3 | 2.47E-3 | 1.99E-1 | 1.13E-3 | 7.52E-3 | 4.71E-3 | -5.67E-3 | 2.07E-1 |
| RWD                               | kg   | 9.52E-6 | 4.26E-7 | 4.02E-7 | 1.03E-5 | 1.24E-7 | 6.21E-7 | 7.12E-9 | -5.96E-7 | 1.05E-5 |
| 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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