

Environmental Profile

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

Ecochain v3.5.71



Product: 3038765 - Hep20 HepKey 22
Unit: 1 piece
Manufacturer: Wavin - UK - Doncaster - Verified

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



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



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	4.06E-2	1.38E-4	2.62E-3	4.33E-2	1.84E-4	5.09E-3	8.00E-5	-1.54E-2	3.33E-2
GWP-f	kg CO2 eq	4.12E-2	1.38E-4	2.40E-3	4.38E-2	1.84E-4	5.09E-3	8.00E-5	-1.54E-2	3.37E-2
GWP-b	kg CO2 eq	-6.61E-4	8.39E-8	2.18E-4	-4.43E-4	1.12E-7	-7.27E-6	8.04E-8	-6.03E-5	-5.10E-4
GWP-luluc	kg CO2 eq	1.78E-5	4.89E-8	5.35E-7	1.84E-5	6.52E-8	1.08E-6	1.56E-9	-7.54E-8	1.95E-5
ODP	kg CFC11 eq	9.98E-10	3.18E-11	3.02E-10	1.33E-9	4.25E-11	1.54E-10	2.19E-12	-2.05E-10	1.33E-9
AP	mol H+ eq	2.27E-4	7.87E-7	4.15E-6	2.32E-4	1.05E-6	6.04E-6	5.42E-8	-7.79E-5	1.61E-4
EP-fw	kg P eq	6.52E-7	1.14E-9	1.35E-8	6.67E-7	1.52E-9	3.17E-8	7.17E-11	-9.31E-9	6.91E-7
EP-m	kg N eq	3.13E-5	2.82E-7	1.07E-6	3.26E-5	3.76E-7	1.79E-6	1.03E-7	-1.03E-5	2.46E-5
EP-T	mol N eq	3.51E-4	3.10E-6	9.55E-6	3.64E-4	4.14E-6	1.95E-5	2.16E-7	-1.13E-4	2.75E-4
POCP	kg NMVOC eq	1.63E-4	8.87E-7	3.17E-6	1.67E-4	1.18E-6	6.05E-6	7.85E-8	-6.20E-5	1.13E-4
ADP-mm	kg Sb eq	2.55E-7	3.58E-9	1.35E-8	2.72E-7	4.77E-9	2.32E-8	5.29E-11	-8.26E-10	3.00E-7
ADP-f	MJ	8.32E-1	2.12E-3	3.51E-2	8.69E-1	2.83E-3	1.84E-2	1.61E-4	-3.34E-1	5.57E-1
WDP	m3 depriv.	8.40E-3	6.51E-6	2.86E-4	8.70E-3	8.68E-6	3.85E-4	7.44E-7	-1.34E-3	7.75E-3
PM	disease inc.	1.90E-9	1.25E-11	3.05E-11	1.94E-9	1.66E-11	9.51E-11	1.10E-12	-6.61E-10	1.39E-9
IR	kBq U-235 eq	7.72E-4	9.27E-6	2.68E-5	8.08E-4	1.24E-5	5.59E-5	7.77E-7	-9.78E-6	8.67E-4
ETP-fw	CTUe	2.40E-1	1.72E-3	1.90E-2	2.61E-1	2.30E-3	2.83E-2	3.39E-4	-8.75E-3	2.83E-1
HTP-c	CTUh	7.32E-12	6.13E-14	8.26E-13	8.20E-12	8.17E-14	2.56E-12	4.26E-15	-1.01E-12	9.84E-12
HTP-nc	CTUh	1.71E-10	2.05E-12	1.62E-11	1.89E-10	2.74E-12	3.29E-11	1.37E-13	-2.42E-11	2.01E-10
SQP	Pt	1.18E-1	1.81E-3	2.95E-3	1.23E-1	2.42E-3	1.45E-2	4.08E-4	-1.08E-3	1.39E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.11E-2	3.04E-5	2.93E-2	6.04E-2	4.06E-5	9.33E-4	7.43E-6	-1.45E-3	6.00E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.11E-2	3.04E-5	2.93E-2	6.04E-2	4.06E-5	9.33E-4	7.43E-6	-1.45E-3	6.00E-2
PENRE	MJ	8.92E-1	2.25E-3	3.86E-2	9.33E-1	3.00E-3	1.96E-2	1.71E-4	-3.60E-1	5.96E-1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.92E-1	2.25E-3	3.86E-2	9.33E-1	3.00E-3	1.96E-2	1.71E-4	-3.60E-1	5.96E-1
PET	MJ	9.23E-1	2.28E-3	6.79E-2	9.94E-1	3.04E-3	2.05E-2	1.78E-4	-3.61E-1	6.56E-1
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	2.38E-4	2.40E-7	8.04E-6	2.47E-4	3.20E-7	1.12E-5	2.00E-7	-3.15E-5	2.27E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.87E-7	5.42E-9	4.19E-8	4.34E-7	7.23E-9	3.05E-8	1.92E-10	-3.93E-8	4.33E-7
NHWD	kg	1.46E-3	1.31E-4	1.95E-4	1.79E-3	1.75E-4	8.89E-4	7.01E-4	-1.52E-4	3.40E-3
RWD	kg	6.58E-7	1.44E-8	3.17E-8	7.04E-7	1.92E-8	7.01E-8	1.06E-9	-1.34E-8	7.81E-7
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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