Environmental Profile

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

Ecochain v3.5.71

Product:	3071175 - Hep20 UFH Comp Manifold Control Pack
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

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 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	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.91E+2	1.01E-1	2.03E-3	1.91E+2	1.35E-1	3.66E+0	6.97E-2	-4.98E+0	1.90E+2
GWP-f	kg CO2 eq	1.92E+2	1.01E-1	1.86E-3	1.93E+2	1.35E-1	3.66E+0	6.97E-2	-4.94E+0	1.91E+2
GWP-b	kg CO2 eq	-1.40E+0	6.14E-5	1.69E-4	-1.40E+0	8.19E-5	-3.91E-5	6.37E-5	-4.00E-2	-1.44E+0
GWP-luluc	kg CO2 eq	3.29E-1	3.58E-5	4.15E-7	3.29E-1	4.77E-5	9.01E-5	2.84E-6	-2.50E-3	3.27E-1
ODP	kg CFC11 eq	1.68E-5	2.33E-8	2.34E-10	1.68E-5	3.11E-8	2.87E-8	1.68E-9	-1.15E-7	1.67E-5
AP	mol H+ eq	1.61E+0	5.76E-4	3.22E-6	1.61E+0	7.68E-4	1.73E-3	4.90E-5	-1.88E-2	1.60E+0
EP-fw	kg P eq	3.73E-2	8.33E-7	1.04E-8	3.73E-2	1.11E-6	6.93E-6	1.59E-7	-1.33E-4	3.72E-2
EP-m	kg N eq	2.48E-1	2.06E-4	8.29E-7	2.49E-1	2.75E-4	6.34E-4	1.47E-4	-3.21E-3	2.46E-1
EP-T	mol N eq	2.97E+0	2.27E-3	7.41E-6	2.97E+0	3.03E-3	6.79E-3	1.83E-4	-3.56E-2	2.94E+0
POCP	kg NMVOC eq	8.17E-1	6.50E-4	2.46E-6	8.18E-1	8.66E-4	1.81E-3	6.60E-5	-2.12E-2	7.99E-1
ADP-mm	kg Sb eq	1.05E-1	2.62E-6	1.04E-8	1.05E-1	3.49E-6	2.78E-6	5.90E-8	-4.35E-5	1.05E-1
ADP-f	MJ	2.48E+3	1.55E+0	2.72E-2	2.48E+3	2.07E+0	2.65E+0	1.28E-1	-1.74E+2	2.31E+3
WDP	m3 depriv.	4.99E+1	4.77E-3	2.22E-4	4.99E+1	6.36E-3	3.51E-2	5.50E-3	-5.69E+0	4.42E+1
PM	disease inc.	1.04E-5	9.13E-9	2.37E-11	1.04E-5	1.22E-8	1.51E-8	9.01E-10	-1.41E-7	1.02E-5
IR	kBq U-235 eq	9.30E+0	6.79E-3	2.07E-5	9.30E+0	9.05E-3	7.94E-3	5.04E-4	-1.88E-1	9.13E+0
ETP-fw	CTUe	1.86E+4	1.26E+0	1.47E-2	1.86E+4	1.68E+0	2.43E+1	5.92E-1	-3.00E+1	1.86E+4
HTP-c	CTUh	2.42E-7	4.49E-11	6.40E-13	2.42E-7	5.98E-11	8.19E-10	5.70E-12	-1.17E-9	2.42E-7
HTP-nc	CTUh	1.09E-5	1.50E-9	1.26E-11	1.09E-5	2.00E-9	8.66E-8	2.21E-10	-3.31E-8	1.09E-5
SQP	Pt	1.20E+3	1.33E+0	2.29E-3	1.21E+3	1.77E+0	9.36E-1	3.04E-1	-7.19E+0	1.20E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.77E+2	2.23E-2	2.27E-2	2.77E+2	2.97E-2	9.74E-2	2.39E-3	-4.37E+0	2.73E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.77E+2	2.23E-2	2.27E-2	2.77E+2	2.97E-2	9.74E-2	2.39E-3	-4.37E+0	2.73E+2
PENRE	MJ	2.64E+3	1.65E+0	2.99E-2	2.65E+3	2.20E+0	2.81E+0	1.36E-1	-1.87E+2	2.46E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.64E+3	1.65E+0	2.99E-2	2.65E+3	2.20E+0	2.81E+0	1.36E-1	-1.87E+2	2.46E+3
PET	MJ	2.92E+3	1.67E+0	5.26E-2	2.92E+3	2.23E+0	2.91E+0	1.39E-1	-1.91E+2	2.74E+3
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	1.87E+0	1.76E-4	6.24E-6	1.87E+0	2.34E-4	1.51E-3	1.34E-4	-8.06E-2	1.79E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.44E-2	3.97E-6	3.25E-8	1.44E-2	5.30E-6	3.27E-5	2.06E-7	-1.86E-5	1.44E-2
NHWD	kg	2.75E+1	9.63E-2	1.51E-4	2.76E+1	1.28E-1	9.93E-2	5.14E-1	-1.84E-1	2.81E+1
RWD	kg	7.13E-3	1.06E-5	2.46E-8	7.14E-3	1.41E-5	1.08E-5	7.64E-7	-1.56E-4	7.01E-3
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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