Environmental Profile

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

Ecochain v3.5.71

Product:	3031376 - HEP20 WPLATE TEE O/SET15X1/2 PF/TF NDZR
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	1.17E+0	7.23E-3	1.07E-1	1.29E+0	6.22E-3	3.00E-2	3.98E-4	-3.33E-1	9.89E-1
GWP-f	kg CO2 eq	1.17E+0	7.23E-3	9.79E-2	1.27E+0	6.21E-3	3.02E-2	3.98E-4	-3.28E-1	9.84E-1
GWP-b	kg CO2 eq	6.01E-4	4.31E-6	8.60E-3	9.21E-3	3.77E-6	-2.28E-4	5.10E-7	-4.57E-3	4.41E-3
GWP-luluc	kg CO2 eq	1.51E-3	2.58E-6	2.50E-5	1.53E-3	2.20E-6	7.62E-6	3.68E-8	-4.44E-4	1.10E-3
ODP	kg CFC11 eq	6.60E-8	1.66E-9	1.21E-8	7.97E-8	1.43E-9	1.12E-9	5.40E-11	-1.84E-8	6.39E-8
AP	mol H+ eq	8.65E-2	4.37E-5	1.83E-4	8.67E-2	3.54E-5	6.73E-5	1.26E-6	-6.78E-3	8.00E-2
EP-fw	kg P eq	6.89E-4	5.91E-8	5.78E-7	6.90E-4	5.11E-8	3.58E-7	1.51E-9	-5.57E-5	6.35E-4
EP-m	kg N eq	4.52E-3	1.53E-5	4.50E-5	4.58E-3	1.27E-5	1.67E-5	7.32E-7	-8.01E-4	3.81E-3
EP-T	mol N eq	6.58E-2	1.69E-4	4.10E-4	6.63E-2	1.40E-4	1.89E-4	4.81E-6	-1.10E-2	5.57E-2
POCP	kg NMVOC eq	1.76E-2	4.80E-5	1.35E-4	1.78E-2	3.99E-5	5.43E-5	1.45E-6	-2.60E-3	1.53E-2
ADP-mm	kg Sb eq	5.49E-3	1.85E-7	6.44E-7	5.49E-3	1.61E-7	2.85E-7	1.22E-9	-2.56E-3	2.93E-3
ADP-f	MJ	1.36E+1	1.11E-1	1.42E+0	1.52E+1	9.54E-2	1.16E-1	3.71E-3	-4.30E+0	1.11E+1
WDP	m3 depriv.	8.81E-1	3.38E-4	1.21E-2	8.94E-1	2.93E-4	1.27E-3	1.43E-4	-2.40E-1	6.55E-1
PM	disease inc.	1.98E-7	6.47E-10	1.35E-9	2.00E-7	5.61E-10	9.66E-10	2.46E-11	-2.66E-8	1.75E-7
IR	kBq U-235 eq	4.63E-2	4.84E-4	1.11E-3	4.79E-2	4.17E-4	4.57E-4	1.56E-5	-1.83E-2	3.05E-2
ETP-fw	CTUe	8.49E+2	8.97E-2	8.67E-1	8.50E+2	7.74E-2	3.44E-1	3.25E-3	-1.20E+2	7.31E+2
HTP-c	CTUh	1.24E-8	3.21E-12	3.72E-11	1.24E-8	2.76E-12	1.46E-11	6.22E-14	-2.69E-9	9.73E-9
HTP-nc	CTUh	9.94E-7	1.07E-10	7.47E-10	9.94E-7	9.23E-11	3.76E-10	1.93E-12	-1.71E-7	8.23E-7
SQP	Pt	1.32E+1	9.38E-2	1.31E-1	1.35E+1	8.16E-2	1.58E-1	8.04E-3	-2.40E+0	1.13E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.77E+0	1.58E-3	1.44E+0	4.22E+0	1.37E-3	1.11E-2	5.19E-5	-7.18E-1	3.51E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.77E+0	1.58E-3	1.44E+0	4.22E+0	1.37E-3	1.11E-2	5.19E-5	-7.18E-1	3.51E+0
PENRE	MJ	1.46E+1	1.18E-1	1.56E+0	1.62E+1	1.01E-1	1.24E-1	3.94E-3	-4.60E+0	1.19E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.46E+1	1.18E-1	1.56E+0	1.62E+1	1.01E-1	1.24E-1	3.94E-3	-4.60E+0	1.19E+1
PET	MJ	1.73E+1	1.19E-1	3.00E+0	2.05E+1	1.03E-1	1.35E-1	3.99E-3	-5.32E+0	1.54E+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	2.32E-2	1.24E-5	3.44E-4	2.36E-2	1.08E-5	5.98E-5	4.06E-6	-6.47E-3	1.72E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.84E-4	2.81E-7	1.66E-6	6.86E-4	2.44E-7	2.73E-7	5.37E-9	-3.22E-4	3.65E-4
NHWD	kg	3.40E-1	6.79E-3	7.70E-3	3.54E-1	5.91E-3	4.86E-3	2.38E-2	-1.12E-1	2.77E-1
RWD	kg	3.95E-5	7.53E-7	1.25E-6	4.15E-5	6.49E-7	5.64E-7	2.44E-8	-1.46E-5	2.81E-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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