Environmental Profile

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

Ecochain v3.5.71

Product:	4064281 - Tigris M5 DRL Hep20 Adaptor 25x22
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	2.09E-1	5.01E-3	1.53E-3	2.15E-1	3.35E-3	2.66E-2	3.07E-4	-2.12E-1	3.35E-2
GWP-f	kg CO2 eq	2.08E-1	5.01E-3	1.53E-3	2.15E-1	3.34E-3	2.49E-2	3.07E-4	-2.14E-1	2.99E-2
GWP-b	kg CO2 eq	3.16E-4	2.97E-6	-1.61E-6	3.17E-4	2.03E-6	1.71E-3	3.63E-7	1.84E-3	3.87E-3
GWP-luluc	kg CO2 eq	3.71E-5	1.80E-6	1.93E-6	4.09E-5	1.18E-6	5.40E-6	2.05E-8	-2.50E-4	-2.03E-4
ODP	kg CFC11 eq	2.92E-9	1.15E-9	7.28E-11	4.15E-9	7.71E-10	8.31E-10	2.99E-11	-9.94E-9	-4.16E-9
AP	mol H+ eq	8.93E-4	3.10E-5	9.71E-6	9.34E-4	1.90E-5	4.42E-5	7.00E-7	-3.56E-3	-2.56E-3
EP-fw	kg P eq	3.03E-6	4.08E-8	2.33E-8	3.09E-6	2.75E-8	2.27E-7	8.51E-10	-2.86E-5	-2.53E-5
EP-m	kg N eq	1.84E-4	1.08E-5	1.39E-6	1.96E-4	6.81E-6	1.17E-5	5.05E-7	-4.41E-4	-2.26E-4
EP-T	mol N eq	1.87E-3	1.19E-4	1.63E-5	2.00E-3	7.51E-5	1.31E-4	2.69E-6	-5.92E-3	-3.71E-3
POCP	kg NMVOC eq	6.32E-4	3.37E-5	5.00E-6	6.71E-4	2.15E-5	3.83E-5	8.30E-7	-1.44E-3	-7.08E-4
ADP-mm	kg Sb eq	5.18E-6	1.28E-7	5.63E-8	5.37E-6	8.65E-8	1.83E-7	6.77E-10	-1.27E-3	-1.27E-3
ADP-f	MJ	2.54E+0	7.67E-2	1.72E-2	2.63E+0	5.13E-2	8.74E-2	2.07E-3	-2.75E+0	1.83E-2
WDP	m3 depriv.	7.10E-2	2.33E-4	3.83E-4	7.16E-2	1.58E-4	1.20E-3	7.23E-5	-1.39E-1	-6.61E-2
PM	disease inc.	8.05E-9	4.47E-10	7.11E-11	8.57E-9	3.02E-10	6.45E-10	1.37E-11	-1.52E-8	-5.63E-9
IR	kBq U-235 eq	1.14E-3	3.35E-4	2.59E-5	1.50E-3	2.24E-4	3.22E-4	8.84E-6	-9.38E-3	-7.32E-3
ETP-fw	CTUe	1.06E+0	6.20E-2	5.92E-2	1.18E+0	4.17E-2	2.18E-1	2.08E-3	-6.00E+1	-5.86E+1
HTP-c	CTUh	4.79E-11	2.23E-12	2.32E-12	5.24E-11	1.48E-12	1.17E-11	3.68E-14	-1.34E-9	-1.28E-9
HTP-nc	CTUh	7.88E-10	7.37E-11	5.29E-11	9.15E-10	4.97E-11	2.41E-10	1.15E-12	-8.55E-8	-8.43E-8
SQP	Pt	3.54E-1	6.48E-2	7.29E-3	4.26E-1	4.39E-2	1.01E-1	4.56E-3	-1.95E+0	-1.37E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.60E-2	1.09E-3	1.43E-1	2.10E-1	7.36E-4	6.91E-3	3.60E-5	-4.97E-1	-2.79E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.60E-2	1.09E-3	1.43E-1	2.10E-1	7.36E-4	6.91E-3	3.60E-5	-4.97E-1	-2.79E-1
PENRE	MJ	2.74E+0	8.14E-2	1.82E-2	2.84E+0	5.45E-2	9.29E-2	2.19E-3	-2.96E+0	3.38E-2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.74E+0	8.14E-2	1.82E-2	2.84E+0	5.45E-2	9.29E-2	2.19E-3	-2.96E+0	3.38E-2
PET	MJ	2.81E+0	8.25E-2	1.61E-1	3.05E+0	5.52E-2	9.98E-2	2.23E-3	-3.45E+0	-2.45E-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	1.70E-3	8.60E-6	1.33E-5	1.72E-3	5.81E-6	4.72E-5	2.30E-6	-3.69E-3	-1.91E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.03E-7	1.94E-7	4.57E-10	7.97E-7	1.31E-7	1.89E-7	2.93E-9	-1.60E-4	-1.59E-4
NHWD	kg	1.05E-2	4.68E-3	5.09E-6	1.52E-2	3.18E-3	3.93E-3	1.28E-2	-5.64E-2	-2.13E-2
RWD	kg	1.34E-6	5.22E-7	3.45E-10	1.86E-6	3.49E-7	4.03E-7	1.36E-8	-7.54E-6	-4.92E-6
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

Ecochain

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777