Environmental Profile

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

Ecochain v3.5.71

Product:	3030716 - Hep20 Branch Reduced Tee Spigot W 15x10
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	2.33E-1	3.64E-3	1.85E-2	2.55E-1	8.18E-4	3.54E-2	3.77E-4	-1.19E-1	1.73E-1
GWP-f	kg CO2 eq	2.32E-1	3.63E-3	1.73E-2	2.53E-1	8.17E-4	3.54E-2	3.77E-4	-1.18E-1	1.72E-1
GWP-b	kg CO2 eq	3.85E-4	2.10E-6	1.15E-3	1.54E-3	4.96E-7	-2.08E-5	3.79E-7	-2.46E-4	1.27E-3
GWP-luluc	kg CO2 eq	1.60E-5	1.32E-6	8.63E-6	2.59E-5	2.89E-7	4.62E-6	7.35E-9	-9.35E-7	2.99E-5
ODP	kg CFC11 eq	3.82E-9	8.33E-10	1.82E-9	6.48E-9	1.88E-10	6.79E-10	1.03E-11	-1.59E-9	5.77E-9
AP	mol H+ eq	1.10E-3	2.42E-5	5.12E-5	1.18E-3	4.66E-6	2.79E-5	2.55E-7	-4.39E-4	7.73E-4
EP-fw	kg P eq	2.74E-6	2.93E-8	1.41E-7	2.91E-6	6.73E-9	1.36E-7	3.38E-10	-9.66E-7	2.09E-6
EP-m	kg N eq	1.96E-4	8.21E-6	9.85E-6	2.14E-4	1.67E-6	8.56E-6	4.83E-7	-8.93E-5	1.35E-4
EP-T	mol N eq	2.00E-3	9.05E-5	9.96E-5	2.19E-3	1.84E-5	9.32E-5	1.02E-6	-9.02E-4	1.40E-3
POCP	kg NMVOC eq	7.73E-4	2.55E-5	3.18E-5	8.31E-4	5.25E-6	2.83E-5	3.70E-7	-3.48E-4	5.17E-4
ADP-mm	kg Sb eq	6.30E-6	9.15E-8	2.40E-7	6.63E-6	2.11E-8	9.98E-8	2.50E-10	-7.00E-7	6.05E-6
ADP-f	MJ	3.32E+0	5.54E-2	2.37E-1	3.61E+0	1.25E-2	7.95E-2	7.58E-4	-1.67E+0	2.04E+0
WDP	m3 depriv.	7.19E-2	1.67E-4	2.67E-3	7.47E-2	3.85E-5	1.75E-3	3.51E-6	-2.78E-2	4.87E-2
PM	disease inc.	9.49E-9	3.20E-10	3.75E-10	1.02E-8	7.38E-11	4.15E-10	5.17E-12	-3.97E-9	6.71E-9
IR	kBq U-235 eq	1.44E-3	2.42E-4	2.19E-4	1.90E-3	5.48E-5	2.42E-4	3.66E-6	-1.13E-4	2.08E-3
ETP-fw	CTUe	6.55E-1	4.47E-2	2.78E-1	9.78E-1	1.02E-2	1.38E-1	1.60E-3	-9.09E-2	1.04E+0
HTP-c	CTUh	5.20E-11	1.62E-12	1.13E-11	6.49E-11	3.63E-13	1.14E-11	2.01E-14	-9.48E-12	6.72E-11
HTP-nc	CTUh	8.30E-10	5.29E-11	2.45E-10	1.13E-9	1.21E-11	1.53E-10	6.45E-13	-2.01E-10	1.09E-9
SQP	Pt	1.78E-1	4.62E-2	3.75E-2	2.62E-1	1.07E-2	6.20E-2	1.93E-3	-1.05E-2	3.26E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.97E-2	7.82E-4	5.84E-1	6.24E-1	1.80E-4	4.01E-3	3.50E-5	-8.07E-3	6.20E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.97E-2	7.82E-4	5.84E-1	6.24E-1	1.80E-4	4.01E-3	3.50E-5	-8.07E-3	6.20E-1
PENRE	MJ	3.58E+0	5.88E-2	2.59E-1	3.90E+0	1.33E-2	8.48E-2	8.04E-4	-1.81E+0	2.19E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.58E+0	5.88E-2	2.59E-1	3.90E+0	1.33E-2	8.48E-2	8.04E-4	-1.81E+0	2.19E+0
PET	MJ	3.62E+0	5.96E-2	8.43E-1	4.52E+0	1.35E-2	8.88E-2	8.39E-4	-1.81E+0	2.81E+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	1.72E-3	6.16E-6	8.25E-5	1.80E-3	1.42E-6	6.19E-5	9.44E-7	-6.50E-4	1.22E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.78E-7	1.39E-7	2.24E-7	8.41E-7	3.21E-8	1.39E-7	9.04E-10	-2.98E-7	7.15E-7
NHWD	kg	1.08E-2	3.34E-3	1.05E-3	1.52E-2	7.78E-4	4.23E-3	3.30E-3	-1.05E-3	2.25E-2
RWD	kg	1.80E-6	3.77E-7	1.69E-7	2.35E-6	8.53E-8	3.03E-7	5.00E-9	-1.50E-7	2.59E-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

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