Environmental Profile

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

Ecochain v3.5.71

Product:	3031025 - Hep20 Brass Adapter 28x1 SP/TM
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	8.04E-1	3.54E-3	7.78E-2	8.85E-1	4.72E-3	3.30E-3	9.45E-5	-1.89E-1	7.03E-1
GWP-f	kg CO2 eq	8.02E-1	3.53E-3	7.13E-2	8.77E-1	4.71E-3	3.47E-3	9.43E-5	-1.85E-1	7.00E-1
GWP-b	kg CO2 eq	3.16E-4	2.15E-6	6.47E-3	6.79E-3	2.86E-6	-1.74E-4	1.87E-7	-3.69E-3	2.92E-3
GWP-luluc	kg CO2 eq	1.25E-3	1.25E-6	1.59E-5	1.27E-3	1.67E-6	3.60E-6	2.63E-8	-3.73E-4	9.03E-4
ODP	kg CFC11 eq	5.24E-8	8.14E-10	8.97E-9	6.22E-8	1.09E-9	5.27E-10	3.88E-11	-1.45E-8	4.94E-8
AP	mol H+ eq	7.19E-2	2.01E-5	1.23E-4	7.20E-2	2.68E-5	3.98E-5	8.95E-7	-5.39E-3	6.67E-2
EP-fw	kg P eq	5.77E-4	2.91E-8	4.00E-7	5.77E-4	3.88E-8	2.18E-7	1.06E-9	-4.59E-5	5.32E-4
EP-m	kg N eq	3.64E-3	7.20E-6	3.17E-5	3.68E-3	9.60E-6	8.99E-6	3.08E-7	-6.02E-4	3.10E-3
EP-T	mol N eq	5.37E-2	7.94E-5	2.83E-4	5.41E-2	1.06E-4	1.04E-4	3.39E-6	-8.56E-3	4.57E-2
POCP	kg NMVOC eq	1.42E-2	2.27E-5	9.41E-5	1.43E-2	3.03E-5	2.88E-5	9.86E-7	-1.95E-3	1.25E-2
ADP-mm	kg Sb eq	4.61E-3	9.14E-8	3.99E-7	4.61E-3	1.22E-7	1.79E-7	8.63E-10	-2.15E-3	2.46E-3
ADP-f	MJ	9.23E+0	5.42E-2	1.04E+0	1.03E+1	7.23E-2	4.96E-2	2.64E-3	-2.54E+0	7.91E+0
WDP	m3 depriv.	6.79E-1	1.66E-4	8.49E-3	6.88E-1	2.22E-4	-2.25E-5	1.18E-4	-1.77E-1	5.11E-1
PM	disease inc.	1.59E-7	3.19E-10	9.05E-10	1.61E-7	4.25E-10	5.63E-10	1.74E-11	-1.95E-8	1.42E-7
IR	kBq U-235 eq	3.78E-2	2.37E-4	7.94E-4	3.88E-2	3.16E-4	2.38E-4	1.08E-5	-1.53E-2	2.41E-2
ETP-fw	CTUe	7.13E+2	4.40E-2	5.62E-1	7.14E+2	5.87E-2	2.02E-1	1.71E-3	-1.01E+2	6.13E+2
HTP-c	CTUh	1.03E-8	1.57E-12	2.45E-11	1.04E-8	2.09E-12	5.64E-12	3.95E-14	-2.25E-9	8.13E-9
HTP-nc	CTUh	8.34E-7	5.25E-11	4.82E-10	8.35E-7	7.00E-11	2.26E-10	1.22E-12	-1.44E-7	6.91E-7
SQP	Pt	1.10E+1	4.64E-2	8.75E-2	1.11E+1	6.19E-2	9.54E-2	5.53E-3	-2.01E+0	9.29E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.30E+0	7.78E-4	8.69E-1	3.17E+0	1.04E-3	6.86E-3	2.13E-5	-5.98E-1	2.58E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.30E+0	7.78E-4	8.69E-1	3.17E+0	1.04E-3	6.86E-3	2.13E-5	-5.98E-1	2.58E+0
PENRE	MJ	9.83E+0	5.76E-2	1.15E+0	1.10E+1	7.68E-2	5.25E-2	2.80E-3	-2.70E+0	8.47E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.83E+0	5.76E-2	1.15E+0	1.10E+1	7.68E-2	5.25E-2	2.80E-3	-2.70E+0	8.47E+0
PET	MJ	1.21E+1	5.84E-2	2.01E+0	1.42E+1	7.78E-2	5.94E-2	2.82E-3	-3.30E+0	1.10E+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	1.80E-2	6.14E-6	2.39E-4	1.83E-2	8.18E-6	1.01E-5	2.81E-6	-4.85E-3	1.34E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.75E-4	1.39E-7	1.24E-6	5.76E-4	1.85E-7	1.44E-7	3.94E-9	-2.70E-4	3.06E-4
NHWD	kg	2.78E-1	3.36E-3	5.78E-3	2.87E-1	4.48E-3	1.60E-3	1.79E-2	-9.32E-2	2.18E-1
RWD	kg	3.18E-5	3.69E-7	9.41E-7	3.31E-5	4.92E-7	2.91E-7	1.73E-8	-1.22E-5	2.17E-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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