Environmental Profile

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

Ecochain v3.5.71

Product:	3031646 - Hep20 Brass Adapter 22x3/4 SP/TM 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	3.99E-1	1.76E-3	3.41E-2	4.35E-1	2.34E-3	1.64E-3	4.70E-5	-9.42E-2	3.45E-1
GWP-f	kg CO2 eq	3.98E-1	1.76E-3	3.12E-2	4.31E-1	2.34E-3	1.73E-3	4.69E-5	-9.22E-2	3.43E-1
GWP-b	kg CO2 eq	1.50E-4	1.07E-6	2.83E-3	2.99E-3	1.42E-6	-8.63E-5	9.29E-8	-1.84E-3	1.06E-3
GWP-luluc	kg CO2 eq	6.23E-4	6.22E-7	6.96E-6	6.30E-4	8.29E-7	1.79E-6	1.31E-8	-1.85E-4	4.48E-4
ODP	kg CFC11 eq	2.60E-8	4.05E-10	3.93E-9	3.04E-8	5.40E-10	2.62E-10	1.93E-11	-7.21E-9	2.40E-8
AP	mol H+ eq	3.57E-2	1.00E-5	5.40E-5	3.58E-2	1.33E-5	1.98E-5	4.45E-7	-2.68E-3	3.32E-2
EP-fw	kg P eq	2.87E-4	1.45E-8	1.75E-7	2.87E-4	1.93E-8	1.09E-7	5.25E-10	-2.28E-5	2.64E-4
EP-m	kg N eq	1.81E-3	3.58E-6	1.39E-5	1.83E-3	4.77E-6	4.47E-6	1.53E-7	-2.99E-4	1.54E-3
EP-T	mol N eq	2.67E-2	3.95E-5	1.24E-4	2.69E-2	5.26E-5	5.17E-5	1.69E-6	-4.26E-3	2.27E-2
POCP	kg NMVOC eq	7.07E-3	1.13E-5	4.12E-5	7.13E-3	1.50E-5	1.43E-5	4.90E-7	-9.67E-4	6.19E-3
ADP-mm	kg Sb eq	2.29E-3	4.55E-8	1.75E-7	2.29E-3	6.06E-8	8.90E-8	4.29E-10	-1.07E-3	1.22E-3
ADP-f	MJ	4.58E+0	2.70E-2	4.56E-1	5.07E+0	3.60E-2	2.46E-2	1.31E-3	-1.26E+0	3.87E+0
WDP	m3 depriv.	3.37E-1	8.28E-5	3.72E-3	3.41E-1	1.10E-4	-1.12E-5	5.87E-5	-8.80E-2	2.53E-1
PM	disease inc.	7.92E-8	1.59E-10	3.97E-10	7.98E-8	2.11E-10	2.80E-10	8.63E-12	-9.68E-9	7.06E-8
IR	kBq U-235 eq	1.88E-2	1.18E-4	3.48E-4	1.92E-2	1.57E-4	1.18E-4	5.37E-6	-7.60E-3	1.19E-2
ETP-fw	CTUe	3.55E+2	2.19E-2	2.46E-1	3.55E+2	2.92E-2	1.01E-1	8.50E-4	-5.01E+1	3.05E+2
HTP-c	CTUh	5.14E-9	7.79E-13	1.07E-11	5.15E-9	1.04E-12	2.80E-12	1.96E-14	-1.12E-9	4.04E-9
HTP-nc	CTUh	4.15E-7	2.61E-11	2.11E-10	4.15E-7	3.48E-11	1.12E-10	6.04E-13	-7.16E-8	3.44E-7
SQP	Pt	5.46E+0	2.31E-2	3.83E-2	5.52E+0	3.08E-2	4.75E-2	2.75E-3	-9.98E-1	4.60E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.15E+0	3.87E-4	3.81E-1	1.53E+0	5.16E-4	3.41E-3	1.06E-5	-2.97E-1	1.23E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.15E+0	3.87E-4	3.81E-1	1.53E+0	5.16E-4	3.41E-3	1.06E-5	-2.97E-1	1.23E+0
PENRE	MJ	4.88E+0	2.86E-2	5.02E-1	5.41E+0	3.82E-2	2.61E-2	1.39E-3	-1.34E+0	4.14E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.88E+0	2.86E-2	5.02E-1	5.41E+0	3.82E-2	2.61E-2	1.39E-3	-1.34E+0	4.14E+0
PET	MJ	6.03E+0	2.90E-2	8.83E-1	6.94E+0	3.87E-2	2.95E-2	1.40E-3	-1.64E+0	5.37E+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	8.96E-3	3.05E-6	1.05E-4	9.06E-3	4.07E-6	5.01E-6	1.40E-6	-2.41E-3	6.66E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.86E-4	6.90E-8	5.45E-7	2.86E-4	9.20E-8	7.18E-8	1.96E-9	-1.34E-4	1.52E-4
NHWD	kg	1.38E-1	1.67E-3	2.53E-3	1.42E-1	2.23E-3	7.95E-4	8.90E-3	-4.63E-2	1.08E-1
RWD	kg	1.58E-5	1.83E-7	4.12E-7	1.64E-5	2.45E-7	1.45E-7	8.60E-9	-6.05E-6	1.07E-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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