Environmental Profile

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

Ecochain v3.5.71

Product:	3030723 - Hep20 Brass Gate Valve 22x22 PF/PF
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	2.27E+0	1.37E-2	2.06E-1	2.49E+0	1.21E-2	4.62E-2	7.02E-4	-6.35E-1	1.91E+0
GWP-f	kg CO2 eq	2.26E+0	1.37E-2	1.89E-1	2.46E+0	1.21E-2	4.66E-2	7.01E-4	-6.25E-1	1.90E+0
GWP-b	kg CO2 eq	1.31E-3	8.15E-6	1.68E-2	1.82E-2	7.35E-6	-4.46E-4	9.21E-7	-8.99E-3	8.74E-3
GWP-luluc	kg CO2 eq	2.96E-3	4.88E-6	4.53E-5	3.01E-3	4.29E-6	1.44E-5	7.10E-8	-8.75E-4	2.15E-3
ODP	kg CFC11 eq	1.27E-7	3.14E-9	2.35E-8	1.54E-7	2.79E-9	2.10E-9	1.04E-10	-3.57E-8	1.23E-7
AP	mol H+ eq	1.70E-1	8.24E-5	3.41E-4	1.71E-1	6.90E-5	1.28E-4	2.42E-6	-1.33E-2	1.58E-1
EP-fw	kg P eq	1.36E-3	1.12E-7	1.09E-6	1.36E-3	9.96E-8	6.88E-7	2.91E-9	-1.10E-4	1.25E-3
EP-m	kg N eq	8.87E-3	2.89E-5	8.55E-5	8.98E-3	2.47E-5	3.14E-5	1.34E-6	-1.56E-3	7.47E-3
EP-T	mol N eq	1.29E-1	3.18E-4	7.71E-4	1.30E-1	2.72E-4	3.57E-4	9.26E-6	-2.16E-2	1.09E-1
POCP	kg NMVOC eq	3.45E-2	9.06E-5	2.55E-4	3.49E-2	7.78E-5	1.02E-4	2.78E-6	-5.08E-3	3.00E-2
ADP-mm	kg Sb eq	1.08E-2	3.50E-7	1.15E-6	1.08E-2	3.13E-7	5.48E-7	2.34E-9	-5.05E-3	5.77E-3
ADP-f	MJ	2.62E+1	2.09E-1	2.74E+0	2.92E+1	1.86E-1	2.18E-1	7.15E-3	-8.21E+0	2.14E+1
WDP	m3 depriv.	1.72E+0	6.38E-4	2.29E-2	1.74E+0	5.70E-4	2.18E-3	2.82E-4	-4.69E-1	1.28E+0
PM	disease inc.	3.88E-7	1.22E-9	2.50E-9	3.92E-7	1.09E-9	1.85E-9	4.73E-11	-5.18E-8	3.43E-7
IR	kBq U-235 eq	9.02E-2	9.14E-4	2.12E-3	9.33E-2	8.12E-4	8.68E-4	3.00E-5	-3.60E-2	5.90E-2
ETP-fw	CTUe	1.67E+3	1.69E-1	1.58E+0	1.68E+3	1.51E-1	6.47E-1	6.05E-3	-2.36E+2	1.44E+3
HTP-c	CTUh	2.44E-8	6.07E-12	6.85E-11	2.44E-8	5.37E-12	2.73E-11	1.18E-13	-5.30E-9	1.92E-8
HTP-nc	CTUh	1.96E-6	2.01E-10	1.36E-9	1.96E-6	1.80E-10	7.17E-10	3.67E-12	-3.38E-7	1.62E-6
SQP	Pt	2.60E+1	1.77E-1	2.43E-1	2.65E+1	1.59E-1	3.04E-1	1.54E-2	-4.72E+0	2.22E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.46E+0	2.98E-3	2.55E+0	8.01E+0	2.67E-3	2.13E-2	9.46E-5	-1.41E+0	6.62E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.46E+0	2.98E-3	2.55E+0	8.01E+0	2.67E-3	2.13E-2	9.46E-5	-1.41E+0	6.62E+0
PENRE	MJ	2.80E+1	2.22E-1	3.02E+0	3.12E+1	1.97E-1	2.32E-1	7.59E-3	-8.78E+0	2.29E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.80E+1	2.22E-1	3.02E+0	3.12E+1	1.97E-1	2.32E-1	7.59E-3	-8.78E+0	2.29E+1
PET	MJ	3.34E+1	2.25E-1	5.57E+0	3.92E+1	2.00E-1	2.53E-1	7.69E-3	-1.02E+1	2.95E+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	4.53E-2	2.35E-5	6.49E-4	4.60E-2	2.10E-5	9.87E-5	7.81E-6	-1.26E-2	3.35E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.35E-3	5.31E-7	3.24E-6	1.35E-3	4.75E-7	5.14E-7	1.04E-8	-6.34E-4	7.20E-4
NHWD	kg	6.68E-1	1.28E-2	1.51E-2	6.96E-1	1.15E-2	8.87E-3	4.62E-2	-2.20E-1	5.42E-1
RWD	kg	7.65E-5	1.42E-6	2.45E-6	8.04E-5	1.26E-6	1.07E-6	4.70E-8	-2.87E-5	5.41E-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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