Environmental Profile

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

Ecochain v3.5.71

Product:	3030722 - Hep20 Brass Gate Valve 15x15 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	1.32E+0	7.89E-3	1.20E-1	1.45E+0	7.09E-3	3.06E-2	4.16E-4	-3.68E-1	1.12E+0
GWP-f	kg CO2 eq	1.32E+0	7.88E-3	1.10E-1	1.44E+0	7.08E-3	3.09E-2	4.15E-4	-3.62E-1	1.11E+0
GWP-b	kg CO2 eq	6.58E-4	4.71E-6	9.73E-3	1.04E-2	4.30E-6	-2.60E-4	5.44E-7	-5.25E-3	4.88E-3
GWP-luluc	kg CO2 eq	1.74E-3	2.81E-6	2.78E-5	1.77E-3	2.51E-6	8.29E-6	4.17E-8	-5.13E-4	1.26E-3
ODP	kg CFC11 eq	7.56E-8	1.81E-9	1.36E-8	9.11E-8	1.63E-9	1.22E-9	6.12E-11	-2.11E-8	7.29E-8
AP	mol H+ eq	9.97E-2	4.74E-5	2.05E-4	1.00E-1	4.03E-5	7.46E-5	1.42E-6	-7.77E-3	9.23E-2
EP-fw	kg P eq	7.96E-4	6.44E-8	6.48E-7	7.97E-4	5.83E-8	3.99E-7	1.71E-9	-6.42E-5	7.33E-4
EP-m	kg N eq	5.19E-3	1.66E-5	5.05E-5	5.25E-3	1.44E-5	1.84E-5	7.89E-7	-9.11E-4	4.38E-3
EP-T	mol N eq	7.57E-2	1.83E-4	4.59E-4	7.63E-2	1.59E-4	2.09E-4	5.43E-6	-1.26E-2	6.41E-2
POCP	kg NMVOC eq	2.02E-2	5.22E-5	1.52E-4	2.04E-2	4.55E-5	5.96E-5	1.63E-6	-2.96E-3	1.76E-2
ADP-mm	kg Sb eq	6.34E-3	2.02E-7	7.13E-7	6.34E-3	1.83E-7	3.18E-7	1.37E-9	-2.96E-3	3.38E-3
ADP-f	MJ	1.53E+1	1.21E-1	1.60E+0	1.71E+1	1.09E-1	1.26E-1	4.20E-3	-4.77E+0	1.25E+1
WDP	m3 depriv.	1.01E+0	3.68E-4	1.35E-2	1.02E+0	3.34E-4	1.26E-3	1.65E-4	-2.73E-1	7.49E-1
PM	disease inc.	2.27E-7	7.06E-10	1.50E-9	2.30E-7	6.39E-10	1.07E-9	2.78E-11	-3.02E-8	2.01E-7
IR	kBq U-235 eq	5.32E-2	5.27E-4	1.25E-3	5.50E-2	4.75E-4	5.01E-4	1.76E-5	-2.11E-2	3.49E-2
ETP-fw	CTUe	9.81E+2	9.78E-2	9.65E-1	9.82E+2	8.83E-2	3.82E-1	3.56E-3	-1.39E+2	8.44E+2
HTP-c	CTUh	1.43E-8	3.50E-12	4.15E-11	1.43E-8	3.14E-12	1.56E-11	6.95E-14	-3.10E-9	1.12E-8
HTP-nc	CTUh	1.15E-6	1.16E-10	8.31E-10	1.15E-6	1.05E-10	4.17E-10	2.16E-12	-1.98E-7	9.51E-7
SQP	Pt	1.53E+1	1.02E-1	1.46E-1	1.55E+1	9.30E-2	1.76E-1	9.05E-3	-2.77E+0	1.30E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.20E+0	1.72E-3	1.59E+0	4.79E+0	1.56E-3	1.23E-2	5.58E-5	-8.28E-1	3.98E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.20E+0	1.72E-3	1.59E+0	4.79E+0	1.56E-3	1.23E-2	5.58E-5	-8.28E-1	3.98E+0
PENRE	MJ	1.64E+1	1.28E-1	1.76E+0	1.83E+1	1.15E-1	1.33E-1	4.46E-3	-5.10E+0	1.34E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.64E+1	1.28E-1	1.76E+0	1.83E+1	1.15E-1	1.33E-1	4.46E-3	-5.10E+0	1.34E+1
PET	MJ	1.96E+1	1.30E-1	3.35E+0	2.31E+1	1.17E-1	1.46E-1	4.51E-3	-5.93E+0	1.74E+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	2.65E-2	1.36E-5	3.86E-4	2.69E-2	1.23E-5	6.17E-5	4.58E-6	-7.37E-3	1.96E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.90E-4	3.07E-7	1.87E-6	7.92E-4	2.78E-7	3.00E-7	6.10E-9	-3.71E-4	4.22E-4
NHWD	kg	3.91E-1	7.41E-3	8.71E-3	4.07E-1	6.74E-3	5.15E-3	2.71E-2	-1.29E-1	3.17E-1
RWD	kg	4.53E-5	8.21E-7	1.42E-6	4.76E-5	7.39E-7	6.18E-7	2.76E-8	-1.68E-5	3.21E-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

Ecochain

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