

# Environmental Profile

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

Ecochain v3.5.71



Product: 3031485 - Hep20 Brass Tee 22x3/4 PF/TF  
 Unit: 1 piece  
 Manufacturer: Wavin - UK - Doncaster - Verified

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



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

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	☑	☑	☑	☑									

## 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

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.75E+0	1.14E-2	1.58E-1	1.92E+0	9.09E-3	4.41E-2	6.41E-4	-5.13E-1	1.46E+0
GWP-f	kg CO2 eq	1.75E+0	1.14E-2	1.45E-1	1.90E+0	9.08E-3	4.44E-2	6.41E-4	-5.06E-1	1.45E+0
GWP-b	kg CO2 eq	1.11E-3	6.77E-6	1.29E-2	1.40E-2	5.52E-6	-3.35E-4	8.01E-7	-6.62E-3	7.02E-3
GWP-luluc	kg CO2 eq	2.15E-3	4.07E-6	3.54E-5	2.19E-3	3.21E-6	1.21E-5	5.41E-8	-6.36E-4	1.57E-3
ODP	kg CFC11 eq	9.37E-8	2.62E-9	1.80E-8	1.14E-7	2.09E-9	1.76E-9	7.93E-11	-2.64E-8	9.18E-8
AP	mol H+ eq	1.24E-1	6.95E-5	2.64E-4	1.24E-1	5.17E-5	1.02E-4	1.85E-6	-9.84E-3	1.15E-1
EP-fw	kg P eq	9.88E-4	9.29E-8	8.41E-7	9.89E-4	7.47E-8	5.48E-7	2.23E-9	-8.02E-5	9.09E-4
EP-m	kg N eq	6.53E-3	2.42E-5	6.58E-5	6.62E-3	1.85E-5	2.57E-5	1.14E-6	-1.18E-3	5.49E-3
EP-T	mol N eq	9.48E-2	2.67E-4	5.96E-4	9.56E-2	2.04E-4	2.90E-4	7.08E-6	-1.61E-2	8.01E-2
POCP	kg NMVOC eq	2.54E-2	7.60E-5	1.97E-4	2.57E-2	5.83E-5	8.38E-5	2.15E-6	-3.83E-3	2.20E-2
ADP-mm	kg Sb eq	7.86E-3	2.91E-7	9.06E-7	7.86E-3	2.35E-7	4.33E-7	1.79E-9	-3.67E-3	4.20E-3
ADP-f	MJ	2.03E+1	1.74E-1	2.10E+0	2.25E+1	1.39E-1	1.87E-1	5.46E-3	-6.58E+0	1.63E+1
WDP	m3 depriv.	1.28E+0	5.31E-4	1.76E-2	1.30E+0	4.28E-4	2.19E-3	2.06E-4	-3.55E-1	9.50E-1
PM	disease inc.	2.86E-7	1.02E-9	1.94E-9	2.89E-7	8.20E-10	1.49E-9	3.62E-11	-3.93E-8	2.52E-7
IR	kBq U-235 eq	6.60E-2	7.62E-4	1.63E-3	6.84E-2	6.09E-4	7.15E-4	2.31E-5	-2.62E-2	4.35E-2
ETP-fw	CTUe	1.22E+3	1.41E-1	1.24E+0	1.22E+3	1.13E-1	5.17E-1	4.95E-3	-1.72E+2	1.05E+3
HTP-c	CTUh	1.77E-8	5.06E-12	5.33E-11	1.78E-8	4.03E-12	2.37E-11	9.29E-14	-3.85E-9	1.39E-8
HTP-nc	CTUh	1.42E-6	1.68E-10	1.06E-9	1.42E-6	1.35E-10	5.72E-10	2.89E-12	-2.46E-7	1.18E-6
SQP	Pt	1.90E+1	1.48E-1	1.88E-1	1.93E+1	1.19E-1	2.42E-1	1.19E-2	-3.43E+0	1.63E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.98E+0	2.48E-3	2.01E+0	5.99E+0	2.00E-3	1.69E-2	8.09E-5	-1.03E+0	4.98E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.98E+0	2.48E-3	2.01E+0	5.99E+0	2.00E-3	1.69E-2	8.09E-5	-1.03E+0	4.98E+0
PENRE	MJ	2.17E+1	1.85E-1	2.31E+0	2.42E+1	1.48E-1	1.98E-1	5.79E-3	-7.05E+0	1.75E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.17E+1	1.85E-1	2.31E+0	2.42E+1	1.48E-1	1.98E-1	5.79E-3	-7.05E+0	1.75E+1
PET	MJ	2.56E+1	1.88E-1	4.33E+0	3.01E+1	1.50E-1	2.15E-1	5.87E-3	-8.08E+0	2.24E+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	3.37E-2	1.96E-5	5.01E-4	3.42E-2	1.58E-5	9.23E-5	6.00E-6	-9.52E-3	2.48E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.80E-4	4.42E-7	2.47E-6	9.83E-4	3.57E-7	4.22E-7	7.86E-9	-4.60E-4	5.23E-4
NHWD	kg	4.89E-1	1.07E-2	1.15E-2	5.12E-1	8.64E-3	7.84E-3	3.47E-2	-1.60E-1	4.02E-1
RWD	kg	5.61E-5	1.19E-6	1.87E-6	5.92E-5	9.48E-7	8.84E-7	3.59E-8	-2.09E-5	4.02E-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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