

# Environmental Profile

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

Ecochain v3.5.71



Product: 3030720 - Hep20 Pb Tee Reduced Both End W 22x22x28  
 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	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

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	8.46E-1	1.33E-2	5.76E-2	9.17E-1	2.87E-3	1.21E-1	1.28E-3	-4.24E-1	6.18E-1
GWP-f	kg CO2 eq	8.55E-1	1.33E-2	5.33E-2	9.21E-1	2.87E-3	9.33E-2	1.28E-3	-4.32E-1	5.87E-1
GWP-b	kg CO2 eq	-9.01E-3	7.69E-6	4.27E-3	-4.73E-3	1.74E-6	2.77E-2	1.29E-6	8.06E-3	3.10E-2
GWP-luluc	kg CO2 eq	1.45E-4	4.84E-6	1.82E-5	1.68E-4	1.02E-6	1.23E-5	2.49E-8	-1.27E-4	5.42E-5
ODP	kg CFC11 eq	1.06E-8	3.05E-9	6.22E-9	1.99E-8	6.62E-10	2.47E-9	3.50E-11	-5.30E-9	1.77E-8
AP	mol H+ eq	4.02E-3	8.88E-5	1.20E-4	4.23E-3	1.64E-5	9.42E-5	8.67E-7	-1.68E-3	2.66E-3
EP-fw	kg P eq	1.06E-5	1.07E-7	3.57E-7	1.11E-5	2.36E-8	4.39E-7	1.15E-9	-5.12E-6	6.41E-6
EP-m	kg N eq	7.39E-4	3.01E-5	2.66E-5	7.96E-4	5.85E-6	2.90E-5	1.64E-6	-3.47E-4	4.85E-4
EP-T	mol N eq	7.50E-3	3.32E-4	2.53E-4	8.08E-3	6.45E-5	3.16E-4	3.45E-6	-3.52E-3	4.95E-3
POCP	kg NMVOC eq	2.81E-3	9.36E-5	8.23E-5	2.99E-3	1.84E-5	9.48E-5	1.26E-6	-1.32E-3	1.78E-3
ADP-mm	kg Sb eq	1.43E-5	3.35E-7	4.89E-7	1.51E-5	7.43E-8	3.68E-7	8.47E-10	-2.42E-6	1.31E-5
ADP-f	MJ	1.18E+1	2.03E-1	7.57E-1	1.27E+1	4.41E-2	2.75E-1	2.57E-3	-5.98E+0	7.06E+0
WDP	m3 depriv.	2.59E-1	6.13E-4	7.15E-3	2.67E-1	1.35E-4	5.78E-3	1.19E-5	-1.28E-1	1.45E-1
PM	disease inc.	3.49E-8	1.17E-9	8.83E-10	3.69E-8	2.59E-10	1.41E-9	1.75E-11	-1.62E-8	2.24E-8
IR	kBq U-235 eq	4.01E-3	8.88E-4	6.28E-4	5.52E-3	1.93E-4	8.63E-4	1.24E-5	-1.35E-3	5.24E-3
ETP-fw	CTUe	4.14E+0	1.64E-1	6.09E-1	4.91E+0	3.58E-2	4.54E-1	5.43E-3	-1.65E+0	3.76E+0
HTP-c	CTUh	1.92E-10	5.95E-12	2.55E-11	2.24E-10	1.27E-12	3.78E-11	6.82E-14	-4.39E-11	2.19E-10
HTP-nc	CTUh	3.03E-9	1.94E-10	5.30E-10	3.76E-9	4.27E-11	5.10E-10	2.19E-12	-1.07E-9	3.24E-9
SQP	Pt	2.16E+0	1.69E-1	8.70E-2	2.41E+0	3.77E-2	-5.12E-1	6.54E-3	-3.26E+0	-1.32E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.01E-1	2.87E-3	1.15E+0	1.55E+0	6.32E-4	-9.27E-2	1.19E-4	-6.17E-1	8.41E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.01E-1	2.87E-3	1.15E+0	1.55E+0	6.32E-4	-9.27E-2	1.19E-4	-6.17E-1	8.41E-1
PENRE	MJ	1.27E+1	2.16E-1	8.30E-1	1.37E+1	4.68E-2	2.93E-1	2.73E-3	-6.47E+0	7.60E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.27E+1	2.16E-1	8.30E-1	1.37E+1	4.68E-2	2.93E-1	2.73E-3	-6.47E+0	7.60E+0
PET	MJ	1.31E+1	2.19E-1	1.98E+0	1.53E+1	4.74E-2	2.00E-1	2.85E-3	-7.09E+0	8.44E+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	6.24E-3	2.26E-5	2.11E-4	6.47E-3	4.99E-6	1.86E-4	3.21E-6	-3.07E-3	3.60E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.76E-6	5.09E-7	8.25E-7	3.09E-6	1.13E-7	4.64E-7	3.07E-9	-9.66E-7	2.71E-6
NHWD	kg	4.10E-2	1.22E-2	3.84E-3	5.71E-2	2.73E-3	1.42E-2	1.12E-2	-5.10E-3	8.01E-2
RWD	kg	4.68E-6	1.38E-6	6.24E-7	6.69E-6	3.00E-7	1.10E-6	1.70E-8	-1.38E-6	6.73E-6
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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