

# Environmental Profile

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

Ecochain v3.5.71



Product: 3030673 - Hep20 Pb Elbow 90° WT 28  
 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	7.41E-1	1.18E-2	4.99E-2	8.03E-1	2.53E-3	1.12E-1	1.12E-3	-3.71E-1	5.47E-1
GWP-f	kg CO2 eq	7.52E-1	1.18E-2	4.62E-2	8.10E-1	2.53E-3	7.92E-2	1.12E-3	-3.81E-1	5.12E-1
GWP-b	kg CO2 eq	-1.13E-2	6.79E-6	3.77E-3	-7.55E-3	1.54E-6	3.31E-2	1.13E-6	9.53E-3	3.51E-2
GWP-luluc	kg CO2 eq	1.56E-4	4.28E-6	1.51E-5	1.75E-4	8.95E-7	9.53E-6	2.18E-8	-1.48E-4	3.72E-5
ODP	kg CFC11 eq	9.17E-9	2.70E-9	5.45E-9	1.73E-8	5.83E-10	2.20E-9	3.06E-11	-4.90E-9	1.52E-8
AP	mol H+ eq	3.56E-3	7.85E-5	1.01E-4	3.74E-3	1.44E-5	8.28E-5	7.59E-7	-1.51E-3	2.33E-3
EP-fw	kg P eq	9.49E-6	9.49E-8	3.03E-7	9.88E-6	2.08E-8	3.74E-7	1.00E-9	-4.92E-6	5.36E-6
EP-m	kg N eq	6.55E-4	2.66E-5	2.27E-5	7.04E-4	5.15E-6	2.57E-5	1.44E-6	-3.10E-4	4.27E-4
EP-T	mol N eq	6.64E-3	2.93E-4	2.14E-4	7.15E-3	5.68E-5	2.80E-4	3.02E-6	-3.16E-3	4.34E-3
POCP	kg NMVOC eq	2.49E-3	8.27E-5	6.99E-5	2.64E-3	1.62E-5	8.34E-5	1.10E-6	-1.18E-3	1.56E-3
ADP-mm	kg Sb eq	1.12E-5	2.96E-7	4.02E-7	1.19E-5	6.54E-8	3.28E-7	7.41E-10	-2.10E-6	1.02E-5
ADP-f	MJ	1.04E+1	1.79E-1	6.58E-1	1.12E+1	3.88E-2	2.40E-1	2.25E-3	-5.31E+0	6.18E+0
WDP	m3 depriv.	2.26E-1	5.41E-4	6.10E-3	2.33E-1	1.19E-4	4.99E-3	1.04E-5	-1.20E-1	1.19E-1
PM	disease inc.	3.10E-8	1.04E-9	7.41E-10	3.27E-8	2.28E-10	1.22E-9	1.53E-11	-1.48E-8	1.94E-8
IR	kBq U-235 eq	3.48E-3	7.84E-4	5.40E-4	4.80E-3	1.70E-4	7.64E-4	1.09E-5	-1.50E-3	4.25E-3
ETP-fw	CTUe	4.24E+0	1.45E-1	5.06E-1	4.89E+0	3.15E-2	3.95E-1	4.75E-3	-1.85E+0	3.47E+0
HTP-c	CTUh	1.72E-10	5.25E-12	2.12E-11	1.98E-10	1.12E-12	3.30E-11	5.97E-14	-4.15E-11	1.91E-10
HTP-nc	CTUh	2.71E-9	1.71E-10	4.40E-10	3.32E-9	3.76E-11	4.48E-10	1.91E-12	-1.04E-9	2.77E-9
SQP	Pt	2.39E+0	1.50E-1	7.29E-2	2.61E+0	3.32E-2	-6.84E-1	5.72E-3	-3.83E+0	-1.87E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.37E-1	2.53E-3	9.35E-1	1.37E+0	5.57E-4	-1.16E-1	1.04E-4	-7.18E-1	5.42E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.37E-1	2.53E-3	9.35E-1	1.37E+0	5.57E-4	-1.16E-1	1.04E-4	-7.18E-1	5.42E-1
PENRE	MJ	1.12E+1	1.91E-1	7.23E-1	1.21E+1	4.12E-2	2.56E-1	2.39E-3	-5.75E+0	6.66E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.12E+1	1.91E-1	7.23E-1	1.21E+1	4.12E-2	2.56E-1	2.39E-3	-5.75E+0	6.66E+0
PET	MJ	1.16E+1	1.93E-1	1.66E+0	1.35E+1	4.18E-2	1.40E-1	2.49E-3	-6.46E+0	7.20E+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	5.47E-3	2.00E-5	1.79E-4	5.67E-3	4.39E-6	1.58E-4	2.80E-6	-2.88E-3	2.95E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.61E-6	4.50E-7	7.27E-7	2.79E-6	9.93E-8	4.03E-7	2.68E-9	-8.92E-7	2.40E-6
NHWD	kg	3.69E-2	1.08E-2	3.39E-3	5.11E-2	2.41E-3	1.26E-2	9.81E-3	-4.89E-3	7.10E-2
RWD	kg	3.98E-6	1.22E-6	5.50E-7	5.75E-6	2.64E-7	9.80E-7	1.48E-8	-1.51E-6	5.51E-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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