

# Environmental Profile

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

Ecochain v3.5.71



Product: 3031580 - Hep20 Uni Wall Plate Elbow 15x1/2 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	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	2.90E-2	6.79E-2	8.38E-1	4.01E-3	1.60E-2	2.22E-4	-2.04E-1	6.54E-1
GWP-f	kg CO2 eq	7.40E-1	2.90E-2	6.24E-2	8.31E-1	4.00E-3	1.61E-2	2.22E-4	-2.01E-1	6.50E-1
GWP-b	kg CO2 eq	3.70E-4	-5.98E-6	5.52E-3	5.88E-3	2.43E-6	-1.47E-4	2.96E-7	-2.98E-3	2.76E-3
GWP-luluc	kg CO2 eq	9.87E-4	1.90E-5	1.55E-5	1.02E-3	1.42E-6	4.56E-6	2.34E-8	-2.92E-4	7.36E-4
ODP	kg CFC11 eq	4.28E-8	5.91E-9	7.73E-9	5.65E-8	9.22E-10	6.69E-10	3.44E-11	-1.19E-8	4.61E-8
AP	mol H+ eq	5.67E-2	8.61E-4	1.15E-4	5.77E-2	2.28E-5	4.15E-5	8.00E-7	-4.41E-3	5.33E-2
EP-fw	kg P eq	4.53E-4	1.32E-7	3.64E-7	4.53E-4	3.29E-8	2.22E-7	9.59E-10	-3.65E-5	4.17E-4
EP-m	kg N eq	2.94E-3	2.13E-4	2.85E-5	3.19E-3	8.16E-6	1.02E-5	4.31E-7	-5.15E-4	2.69E-3
EP-T	mol N eq	4.30E-2	2.37E-3	2.58E-4	4.56E-2	8.99E-5	1.16E-4	3.05E-6	-7.14E-3	3.87E-2
POCP	kg NMVOC eq	1.15E-2	6.16E-4	8.54E-5	1.22E-2	2.57E-5	3.30E-5	9.17E-7	-1.67E-3	1.06E-2
ADP-mm	kg Sb eq	3.61E-3	2.72E-7	3.97E-7	3.61E-3	1.04E-7	1.78E-7	7.73E-10	-1.68E-3	1.93E-3
ADP-f	MJ	8.60E+0	3.79E-1	9.05E-1	9.88E+0	6.14E-2	6.88E-2	2.36E-3	-2.65E+0	7.36E+0
WDP	m3 depriv.	5.69E-1	6.28E-4	7.63E-3	5.78E-1	1.89E-4	6.57E-4	9.38E-5	-1.54E-1	4.25E-1
PM	disease inc.	1.29E-7	1.07E-9	8.44E-10	1.31E-7	3.61E-10	5.95E-10	1.56E-11	-1.70E-8	1.15E-7
IR	kBq U-235 eq	3.02E-2	1.63E-3	7.03E-4	3.25E-2	2.68E-4	2.77E-4	9.90E-6	-1.20E-2	2.11E-2
ETP-fw	CTUe	5.58E+2	2.52E-1	5.39E-1	5.59E+2	4.99E-2	2.12E-1	1.97E-3	-7.88E+1	4.80E+2
HTP-c	CTUh	8.12E-9	1.61E-11	2.32E-11	8.16E-9	1.78E-12	8.53E-12	3.88E-14	-1.77E-9	6.40E-9
HTP-nc	CTUh	6.53E-7	2.16E-10	4.64E-10	6.54E-7	5.95E-11	2.32E-10	1.20E-12	-1.13E-7	5.41E-7
SQP	Pt	8.69E+0	8.52E-2	8.19E-2	8.85E+0	5.26E-2	9.80E-2	5.08E-3	-1.57E+0	7.43E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.82E+0	2.91E-3	8.84E-1	2.71E+0	8.81E-4	6.88E-3	3.05E-5	-4.71E-1	2.24E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.82E+0	2.91E-3	8.84E-1	2.71E+0	8.81E-4	6.88E-3	3.05E-5	-4.71E-1	2.24E+0
PENRE	MJ	9.18E+0	4.02E-1	9.96E-1	1.06E+1	6.52E-2	7.31E-2	2.51E-3	-2.84E+0	7.88E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.18E+0	4.02E-1	9.96E-1	1.06E+1	6.52E-2	7.31E-2	2.51E-3	-2.84E+0	7.88E+0
PET	MJ	1.10E+1	4.05E-1	1.88E+0	1.33E+1	6.61E-2	8.00E-2	2.54E-3	-3.31E+0	1.01E+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	1.50E-2	2.26E-5	2.17E-4	1.52E-2	6.95E-6	3.26E-5	2.57E-6	-4.16E-3	1.11E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.50E-4	4.23E-7	1.06E-6	4.51E-4	1.57E-7	1.66E-7	3.44E-9	-2.11E-4	2.40E-4
NHWD	kg	2.22E-1	3.70E-3	4.94E-3	2.31E-1	3.81E-3	2.79E-3	1.53E-2	-7.34E-2	1.79E-1
RWD	kg	2.57E-5	2.63E-6	8.03E-7	2.91E-5	4.18E-7	3.42E-7	1.55E-8	-9.57E-6	2.03E-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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