

# Environmental Profile

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

Ecochain v3.5.71



Product: 3031357 - Hep20 Brass Adapter 22x3/4 PF/TM NDZR  
 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	7.91E-1	5.43E-3	5.39E-2	8.50E-1	4.03E-3	2.24E-2	3.21E-4	-2.40E-1	6.37E-1
GWP-f	kg CO2 eq	7.90E-1	5.42E-3	4.96E-2	8.45E-1	4.03E-3	2.25E-2	3.21E-4	-2.37E-1	6.35E-1
GWP-b	kg CO2 eq	5.14E-4	3.22E-6	4.36E-3	4.87E-3	2.45E-6	-1.48E-4	3.91E-7	-2.89E-3	1.83E-3
GWP-luluc	kg CO2 eq	9.32E-4	1.94E-6	1.26E-5	9.47E-4	1.43E-6	5.80E-6	2.43E-8	-2.75E-4	6.79E-4
ODP	kg CFC11 eq	4.08E-8	1.25E-9	6.12E-9	4.81E-8	9.28E-10	8.43E-10	3.55E-11	-1.16E-8	3.84E-8
AP	mol H+ eq	5.38E-2	3.33E-5	9.27E-5	5.40E-2	2.29E-5	4.75E-5	8.30E-7	-4.32E-3	4.97E-2
EP-fw	kg P eq	4.28E-4	4.42E-8	2.93E-7	4.28E-4	3.31E-8	2.53E-7	1.00E-9	-3.49E-5	3.94E-4
EP-m	kg N eq	2.85E-3	1.16E-5	2.28E-5	2.89E-3	8.21E-6	1.21E-5	5.49E-7	-5.24E-4	2.39E-3
EP-T	mol N eq	4.13E-2	1.28E-4	2.07E-4	4.16E-2	9.05E-5	1.36E-4	3.18E-6	-7.10E-3	3.47E-2
POCP	kg NMVOC eq	1.11E-2	3.64E-5	6.84E-5	1.12E-2	2.59E-5	3.95E-5	9.73E-7	-1.71E-3	9.55E-3
ADP-mm	kg Sb eq	3.40E-3	1.39E-7	3.25E-7	3.40E-3	1.04E-7	1.99E-7	8.03E-10	-1.59E-3	1.82E-3
ADP-f	MJ	9.17E+0	8.30E-2	7.18E-1	9.97E+0	6.18E-2	9.03E-2	2.45E-3	-3.06E+0	7.07E+0
WDP	m3 depriv.	5.67E-1	2.53E-4	6.10E-3	5.73E-1	1.90E-4	1.15E-3	8.94E-5	-1.59E-1	4.16E-1
PM	disease inc.	1.25E-7	4.84E-10	6.81E-10	1.26E-7	3.64E-10	6.92E-10	1.62E-11	-1.76E-8	1.10E-7
IR	kBq U-235 eq	2.86E-2	3.63E-4	5.61E-4	2.96E-2	2.70E-4	3.38E-4	1.04E-5	-1.13E-2	1.88E-2
ETP-fw	CTUe	5.26E+2	6.72E-2	4.38E-1	5.27E+2	5.02E-2	2.39E-1	2.33E-3	-7.43E+1	4.53E+2
HTP-c	CTUh	7.66E-9	2.41E-12	1.88E-11	7.69E-9	1.79E-12	1.16E-11	4.25E-14	-1.67E-9	6.03E-9
HTP-nc	CTUh	6.16E-7	7.98E-11	3.77E-10	6.16E-7	5.99E-11	2.65E-10	1.33E-12	-1.06E-7	5.10E-7
SQP	Pt	8.18E+0	7.02E-2	6.62E-2	8.32E+0	5.29E-2	1.12E-1	5.36E-3	-1.49E+0	7.00E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.72E+0	1.18E-3	7.28E-1	2.45E+0	8.87E-4	7.78E-3	3.91E-5	-4.47E-1	2.02E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.72E+0	1.18E-3	7.28E-1	2.45E+0	8.87E-4	7.78E-3	3.91E-5	-4.47E-1	2.02E+0
PENRE	MJ	9.80E+0	8.81E-2	7.90E-1	1.07E+1	6.56E-2	9.60E-2	2.60E-3	-3.28E+0	7.57E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.80E+0	8.81E-2	7.90E-1	1.07E+1	6.56E-2	9.60E-2	2.60E-3	-3.28E+0	7.57E+0
PET	MJ	1.15E+1	8.93E-2	1.52E+0	1.31E+1	6.65E-2	1.04E-1	2.64E-3	-3.72E+0	9.59E+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	1.49E-2	9.32E-6	1.74E-4	1.50E-2	7.00E-6	4.66E-5	2.71E-6	-4.24E-3	1.09E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.24E-4	2.10E-7	8.39E-7	4.25E-4	1.58E-7	1.99E-7	3.51E-9	-1.99E-4	2.26E-4
NHWD	kg	2.12E-1	5.08E-3	3.90E-3	2.21E-1	3.83E-3	3.86E-3	1.54E-2	-6.96E-2	1.74E-1
RWD	kg	2.44E-5	5.65E-7	6.34E-7	2.56E-5	4.20E-7	4.19E-7	1.61E-8	-9.05E-6	1.74E-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 Technologies BV  
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands  
<https://www.ecochain.com>  
+31 20 3035 777