Environmental Profile

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

Ecochain v3.5.80

Product:	3020675 - Wafix PP Repair Socket BK 90
Unit:	1 piece
Manufacturer:	Wavin - PL -Buk - Extra products

Wafix PP is a versatile, uncomplicated solution for your indoor drainage. You can easily install the impact-resistant pipes even in frost. Their excellent chemical resistance makes them ideal for cast-in applications.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	08-06-2023
End of validity:	08-06-2028
Verifier:	Martijn van Hövell - SGS Search

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 - PL -Buk - Extra products (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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.90E-1	4.24E-3	1.45E-4	2.94E-1	4.29E-3	2.97E-1	2.02E-3	-2.24E-1	3.74E-1
GWP-f	kg CO2 eq	4.37E-1	4.23E-3	1.46E-4	4.41E-1	4.29E-3	1.41E-1	2.02E-3	-2.37E-1	3.50E-1
GWP-b	kg CO2 eq	-1.47E-1	2.57E-6	-1.54E-6	-1.47E-1	2.61E-6	1.56E-1	1.76E-6	1.40E-2	2.30E-2
GWP-luluc	kg CO2 eq	4.16E-4	1.50E-6	1.49E-7	4.18E-4	1.52E-6	2.52E-5	3.45E-8	-2.28E-4	2.16E-4
ODP	kg CFC11 eq	2.98E-8	9.75E-10	8.26E-12	3.08E-8	9.89E-10	3.62E-9	5.07E-11	-1.29E-8	2.25E-8
AP	mol H+ eq	1.87E-3	2.41E-5	1.47E-6	1.89E-3	2.44E-5	1.50E-4	1.21E-6	-7.87E-4	1.28E-3
EP-fw	kg P eq	1.07E-5	3.48E-8	8.24E-9	1.07E-5	3.53E-8	7.35E-7	1.58E-9	-4.74E-6	6.78E-6
EP-m	kg N eq	3.45E-4	8.63E-6	1.55E-7	3.53E-4	8.75E-6	4.53E-5	7.87E-7	-1.57E-4	2.51E-4
EP-T	mol N eq	3.80E-3	9.51E-5	1.85E-6	3.90E-3	9.64E-5	4.99E-4	4.91E-6	-1.78E-3	2.73E-3
POCP	kg NMVOC eq	1.56E-3	2.72E-5	6.28E-7	1.59E-3	2.75E-5	1.56E-4	1.84E-6	-7.28E-4	1.05E-3
ADP-mm	kg Sb eq	2.56E-5	1.09E-7	1.97E-8	2.58E-5	1.11E-7	5.88E-7	1.22E-9	-1.81E-6	2.47E-5
ADP-f	MJ	1.35E+1	6.50E-2	1.36E-3	1.36E+1	6.59E-2	4.52E-1	3.70E-3	-6.91E+0	7.17E+0
WDP	m3 depriv.	2.71E-1	1.99E-4	5.22E-5	2.71E-1	2.02E-4	8.46E-3	1.89E-5	-1.42E-1	1.38E-1
PM	disease inc.	2.02E-8	3.82E-10	9.08E-12	2.06E-8	3.87E-10	2.43E-9	2.55E-11	-9.08E-9	1.44E-8
IR	kBq U-235 eq	1.44E-2	2.84E-4	1.02E-6	1.46E-2	2.88E-4	1.41E-3	1.72E-5	-5.02E-3	1.13E-2
ETP-fw	CTUe	7.93E+0	5.28E-2	1.21E-2	7.99E+0	5.35E-2	5.26E-1	3.10E-3	-2.75E+0	5.82E+0
HTP-c	CTUh	2.61E-10	1.88E-12	6.17E-13	2.64E-10	1.90E-12	6.38E-11	9.06E-14	-9.76E-11	2.32E-10
HTP-nc	CTUh	5.23E-9	6.29E-11	1.57E-11	5.31E-9	6.38E-11	7.70E-10	2.00E-12	-1.42E-9	4.72E-9
SQP	Pt	1.44E+1	5.56E-2	2.24E-3	1.45E+1	5.63E-2	3.58E-1	9.50E-3	-1.36E+1	1.31E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.11E+0	9.32E-4	2.40E-2	4.14E+0	9.45E-4	2.17E-2	1.43E-4	-2.19E+0	1.97E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.11E+0	9.32E-4	2.40E-2	4.14E+0	9.45E-4	2.17E-2	1.43E-4	-2.19E+0	1.97E+0
PENRE	MJ	1.45E+1	6.90E-2	1.44E-3	1.45E+1	6.99E-2	4.82E-1	3.93E-3	-7.44E+0	7.65E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.45E+1	6.90E-2	1.44E-3	1.45E+1	6.99E-2	4.82E-1	3.93E-3	-7.44E+0	7.65E+0
PET	MJ	1.86E+1	6.99E-2	2.55E-2	1.87E+1	7.09E-2	5.03E-1	4.07E-3	-9.63E+0	9.62E+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	4.99E-3	7.35E-6	1.46E-6	5.00E-3	7.45E-6	2.57E-4	4.57E-6	-2.47E-3	2.80E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.33E-6	1.66E-7	2.73E-13	4.49E-6	1.68E-7	7.68E-7	4.46E-9	-2.87E-6	2.56E-6
NHWD	kg	3.40E-2	4.03E-3	1.05E-6	3.80E-2	4.08E-3	2.27E-2	1.63E-2	-1.25E-2	6.87E-2
RWD	kg	1.59E-5	4.42E-7	1.10E-13	1.64E-5	4.48E-7	1.81E-6	2.42E-8	-4.88E-6	1.38E-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