

Environmental Profile

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

Ecochain v3.5.80



Product: 3043812 - Wafix PP Bend 45° GY 32 S/SP
 Unit: 1 piece
 Manufacturer: Wavin - PL -Buk - Extra products

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



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.

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

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.84E-2	3.92E-4	1.45E-4	5.89E-2	6.74E-4	7.52E-2	3.18E-4	-3.83E-2	9.68E-2
GWP-f	kg CO2 eq	1.07E-1	3.92E-4	1.46E-4	1.08E-1	6.73E-4	2.35E-2	3.18E-4	-4.31E-2	8.93E-2
GWP-b	kg CO2 eq	-4.90E-2	2.38E-7	-1.54E-6	-4.91E-2	4.09E-7	5.17E-2	2.77E-7	4.79E-3	7.49E-3
GWP-luluc	kg CO2 eq	1.08E-4	1.39E-7	1.49E-7	1.08E-4	2.38E-7	4.11E-6	5.32E-9	-6.70E-5	4.55E-5
ODP	kg CFC11 eq	7.00E-9	9.03E-11	8.26E-12	7.10E-9	1.55E-10	6.43E-10	7.96E-12	-2.55E-9	5.36E-9
AP	mol H+ eq	4.80E-4	2.23E-6	1.47E-6	4.84E-4	3.84E-6	2.64E-5	1.89E-7	-1.61E-4	3.54E-4
EP-fw	kg P eq	2.71E-6	3.22E-9	8.24E-9	2.72E-6	5.54E-9	1.21E-7	2.45E-10	-1.14E-6	1.71E-6
EP-m	kg N eq	9.23E-5	7.99E-7	1.55E-7	9.33E-5	1.37E-6	8.16E-6	1.24E-7	-3.42E-5	6.87E-5
EP-T	mol N eq	1.04E-3	8.80E-6	1.85E-6	1.05E-3	1.51E-5	8.98E-5	7.70E-7	-3.91E-4	7.65E-4
POCP	kg NMVOC eq	3.98E-4	2.52E-6	6.28E-7	4.01E-4	4.32E-6	2.78E-5	2.89E-7	-1.51E-4	2.82E-4
ADP-mm	kg Sb eq	4.96E-6	1.01E-8	1.97E-8	4.99E-6	1.74E-8	1.02E-7	1.90E-10	-3.57E-7	4.75E-6
ADP-f	MJ	3.04E+0	6.01E-3	1.36E-3	3.05E+0	1.03E-2	7.61E-2	5.81E-4	-1.18E+0	1.95E+0
WDP	m3 depriv.	6.55E-2	1.85E-5	5.22E-5	6.55E-2	3.17E-5	1.37E-3	2.66E-6	-2.69E-2	4.00E-2
PM	disease inc.	5.22E-9	3.54E-11	9.08E-12	5.27E-9	6.08E-11	4.19E-10	3.99E-12	-2.17E-9	3.58E-9
IR	kBq U-235 eq	3.27E-3	2.63E-5	1.02E-6	3.29E-3	4.52E-5	2.45E-4	2.70E-6	-1.11E-3	2.47E-3
ETP-fw	CTUe	1.94E+0	4.88E-3	1.21E-2	1.95E+0	8.39E-3	9.05E-2	4.86E-4	-7.47E-1	1.31E+0
HTP-c	CTUh	6.94E-11	1.74E-13	6.17E-13	7.02E-11	2.99E-13	1.08E-11	1.40E-14	-2.62E-11	5.52E-11
HTP-nc	CTUh	1.30E-9	5.82E-12	1.57E-11	1.32E-9	1.00E-11	1.30E-10	3.12E-13	-3.07E-10	1.15E-9
SQP	Pt	4.62E+0	5.15E-3	2.24E-3	4.62E+0	8.84E-3	5.97E-2	1.49E-3	-4.45E+0	2.49E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.33E-1	8.63E-5	2.40E-2	9.57E-1	1.48E-4	3.58E-3	2.26E-5	-7.06E-1	2.55E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.33E-1	8.63E-5	2.40E-2	9.57E-1	1.48E-4	3.58E-3	2.26E-5	-7.06E-1	2.55E-1
PENRE	MJ	3.26E+0	6.39E-3	1.44E-3	3.27E+0	1.10E-2	8.11E-2	6.16E-4	-1.28E+0	2.08E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.26E+0	6.39E-3	1.44E-3	3.27E+0	1.10E-2	8.11E-2	6.16E-4	-1.28E+0	2.08E+0
PET	MJ	4.19E+0	6.47E-3	2.55E-2	4.22E+0	1.11E-2	8.46E-2	6.39E-4	-1.98E+0	2.34E+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	1.26E-3	6.81E-7	1.46E-6	1.26E-3	1.17E-6	4.26E-5	7.17E-7	-5.20E-4	7.86E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.33E-6	1.54E-8	2.73E-13	1.34E-6	2.64E-8	1.34E-7	6.97E-10	-6.62E-7	8.40E-7
NHWD	kg	1.28E-2	3.73E-4	1.05E-6	1.32E-2	6.41E-4	3.87E-3	2.56E-3	-3.20E-3	1.71E-2
RWD	kg	3.52E-6	4.09E-8	1.10E-13	3.56E-6	7.03E-8	3.18E-7	3.79E-9	-1.12E-6	2.83E-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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