Environmental Profile

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

Ecochain v3.5.80

Product:	3043868 - Wafix PP Bend 30° WT 32 S/S
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	7.50E-2	6.87E-4	1.45E-4	7.58E-2	7.59E-4	8.54E-2	3.57E-4	-4.70E-2	1.15E-1
GWP-f	kg CO2 eq	1.24E-1	6.87E-4	1.46E-4	1.25E-1	7.58E-4	3.37E-2	3.57E-4	-5.18E-2	1.08E-1
GWP-b	kg CO2 eq	-4.92E-2	4.17E-7	-1.54E-6	-4.92E-2	4.60E-7	5.17E-2	3.10E-7	4.77E-3	7.29E-3
GWP-luluc	kg CO2 eq	1.21E-4	2.43E-7	1.49E-7	1.22E-4	2.68E-7	4.65E-6	6.27E-9	-6.85E-5	5.82E-5
ODP	kg CFC11 eq	8.73E-9	1.58E-10	8.26E-12	8.90E-9	1.75E-10	7.25E-10	8.97E-12	-3.71E-9	6.10E-9
AP	mol H+ eq	5.77E-4	3.91E-6	1.47E-6	5.82E-4	4.32E-6	3.02E-5	2.15E-7	-1.77E-4	4.41E-4
EP-fw	kg P eq	3.30E-6	5.65E-9	8.24E-9	3.31E-6	6.24E-9	1.37E-7	2.85E-10	-1.23E-6	2.23E-6
EP-m	kg N eq	1.03E-4	1.40E-6	1.55E-7	1.05E-4	1.55E-6	9.43E-6	1.38E-7	-3.75E-5	7.85E-5
EP-T	mol N eq	1.18E-3	1.54E-5	1.85E-6	1.20E-3	1.70E-5	1.04E-4	8.71E-7	-4.27E-4	8.92E-4
POCP	kg NMVOC eq	4.56E-4	4.41E-6	6.28E-7	4.61E-4	4.87E-6	3.20E-5	3.26E-7	-1.66E-4	3.33E-4
ADP-mm	kg Sb eq	8.24E-6	1.78E-8	1.97E-8	8.28E-6	1.96E-8	1.15E-7	2.18E-10	-4.01E-7	8.02E-6
ADP-f	MJ	3.52E+0	1.05E-2	1.36E-3	3.53E+0	1.16E-2	8.59E-2	6.56E-4	-1.38E+0	2.24E+0
WDP	m3 depriv.	7.96E-2	3.24E-5	5.22E-5	7.97E-2	3.57E-5	1.55E-3	3.96E-6	-3.04E-2	5.09E-2
PM	disease inc.	6.03E-9	6.20E-11	9.08E-12	6.10E-9	6.84E-11	4.75E-10	4.51E-12	-2.27E-9	4.38E-9
IR	kBq U-235 eq	4.08E-3	4.61E-5	1.02E-6	4.13E-3	5.09E-5	2.75E-4	3.03E-6	-1.23E-3	3.23E-3
ETP-fw	CTUe	2.32E+0	8.56E-3	1.21E-2	2.34E+0	9.45E-3	1.03E-1	5.49E-4	-7.80E-1	1.67E+0
HTP-c	CTUh	8.13E-11	3.05E-13	6.17E-13	8.22E-11	3.36E-13	1.34E-11	1.65E-14	-2.76E-11	6.84E-11
HTP-nc	CTUh	1.59E-9	1.02E-11	1.57E-11	1.62E-9	1.13E-11	1.53E-10	3.56E-13	-3.46E-10	1.43E-9
SQP	Pt	4.69E+0	9.02E-3	2.24E-3	4.70E+0	9.96E-3	6.75E-2	1.68E-3	-4.45E+0	3.22E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.08E+0	1.51E-4	2.40E-2	1.11E+0	1.67E-4	4.05E-3	2.50E-5	-7.08E-1	4.04E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.08E+0	1.51E-4	2.40E-2	1.11E+0	1.67E-4	4.05E-3	2.50E-5	-7.08E-1	4.04E-1
PENRE	MJ	3.77E+0	1.12E-2	1.44E-3	3.78E+0	1.24E-2	9.15E-2	6.96E-4	-1.49E+0	2.40E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.77E+0	1.12E-2	1.44E-3	3.78E+0	1.24E-2	9.15E-2	6.96E-4	-1.49E+0	2.40E+0
PET	MJ	4.85E+0	1.13E-2	2.55E-2	4.89E+0	1.25E-2	9.56E-2	7.21E-4	-2.20E+0	2.80E+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	1.58E-3	1.19E-6	1.46E-6	1.58E-3	1.32E-6	4.92E-5	8.05E-7	-5.66E-4	1.07E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.47E-6	2.70E-8	2.73E-13	1.50E-6	2.98E-8	1.52E-7	7.96E-10	-7.99E-7	8.84E-7
NHWD	kg	1.23E-2	6.53E-4	1.05E-6	1.30E-2	7.21E-4	4.68E-3	2.88E-3	-3.39E-3	1.79E-2
RWD	kg	4.40E-6	7.17E-8	1.10E-13	4.47E-6	7.91E-8	3.57E-7	4.27E-9	-1.24E-6	3.67E-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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