Environmental Profile

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

Ecochain v3.5.80

Product:	3043856 - Wafix PP Bend 30° WT 40 S/SP
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	6.70E-2	5.60E-4	1.45E-4	6.77E-2	9.54E-4	9.26E-2	4.49E-4	-5.55E-2	1.06E-1
GWP-f	kg CO2 eq	1.16E-1	5.59E-4	1.46E-4	1.17E-1	9.53E-4	3.96E-2	4.49E-4	-6.24E-2	9.55E-2
GWP-b	kg CO2 eq	-4.93E-2	3.40E-7	-1.54E-6	-4.93E-2	5.79E-7	5.31E-2	3.90E-7	6.98E-3	1.07E-2
GWP-luluc	kg CO2 eq	1.29E-4	1.98E-7	1.49E-7	1.29E-4	3.37E-7	5.83E-6	7.81E-9	-8.77E-5	4.74E-5
ODP	kg CFC11 eq	6.31E-9	1.29E-10	8.26E-12	6.44E-9	2.20E-10	9.09E-10	1.13E-11	-4.24E-9	3.35E-9
AP	mol H+ eq	5.11E-4	3.19E-6	1.47E-6	5.16E-4	5.43E-6	3.77E-5	2.70E-7	-2.15E-4	3.44E-4
EP-fw	kg P eq	3.09E-6	4.60E-9	8.24E-9	3.10E-6	7.84E-9	1.72E-7	3.56E-10	-1.55E-6	1.73E-6
EP-m	kg N eq	9.61E-5	1.14E-6	1.55E-7	9.74E-5	1.94E-6	1.17E-5	1.74E-7	-4.50E-5	6.62E-5
EP-T	mol N eq	1.06E-3	1.26E-5	1.85E-6	1.08E-3	2.14E-5	1.29E-4	1.09E-6	-5.11E-4	7.17E-4
POCP	kg NMVOC eq	4.20E-4	3.59E-6	6.28E-7	4.25E-4	6.12E-6	3.98E-5	4.10E-7	-1.98E-4	2.73E-4
ADP-mm	kg Sb eq	4.51E-6	1.45E-8	1.97E-8	4.55E-6	2.47E-8	1.45E-7	2.73E-10	-4.79E-7	4.24E-6
ADP-f	MJ	3.38E+0	8.58E-3	1.36E-3	3.39E+0	1.46E-2	1.08E-1	8.24E-4	-1.69E+0	1.82E+0
WDP	m3 depriv.	7.23E-2	2.63E-5	5.22E-5	7.24E-2	4.49E-5	1.95E-3	4.73E-6	-3.90E-2	3.54E-2
PM	disease inc.	5.41E-9	5.05E-11	9.08E-12	5.47E-9	8.60E-11	5.96E-10	5.66E-12	-2.74E-9	3.41E-9
IR	kBq U-235 eq	3.23E-3	3.75E-5	1.02E-6	3.27E-3	6.39E-5	3.45E-4	3.81E-6	-1.52E-3	2.17E-3
ETP-fw	CTUe	2.36E+0	6.97E-3	1.21E-2	2.38E+0	1.19E-2	1.30E-1	6.89E-4	-1.02E+0	1.51E+0
HTP-c	CTUh	8.17E-11	2.48E-13	6.17E-13	8.25E-11	4.23E-13	1.64E-11	2.06E-14	-3.06E-11	6.87E-11
HTP-nc	CTUh	1.56E-9	8.31E-12	1.57E-11	1.58E-9	1.42E-11	1.90E-10	4.46E-13	-3.90E-10	1.40E-9
SQP	Pt	4.71E+0	7.34E-3	2.24E-3	4.72E+0	1.25E-2	8.45E-2	2.11E-3	-4.92E+0	-1.01E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.31E+0	1.23E-4	2.40E-2	1.33E+0	2.10E-4	5.08E-3	3.16E-5	-7.95E-1	5.43E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.31E+0	1.23E-4	2.40E-2	1.33E+0	2.10E-4	5.08E-3	3.16E-5	-7.95E-1	5.43E-1
PENRE	MJ	3.62E+0	9.11E-3	1.44E-3	3.63E+0	1.55E-2	1.15E-1	8.74E-4	-1.82E+0	1.94E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.62E+0	9.11E-3	1.44E-3	3.63E+0	1.55E-2	1.15E-1	8.74E-4	-1.82E+0	1.94E+0
PET	MJ	4.93E+0	9.24E-3	2.55E-2	4.97E+0	1.57E-2	1.20E-1	9.06E-4	-2.62E+0	2.48E+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	1.37E-3	9.71E-7	1.46E-6	1.38E-3	1.66E-6	6.12E-5	1.01E-6	-7.35E-4	7.05E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.21E-6	2.20E-8	2.73E-13	1.23E-6	3.74E-8	1.90E-7	9.98E-10	-9.28E-7	5.29E-7
NHWD	kg	9.81E-3	5.32E-4	1.05E-6	1.03E-2	9.07E-4	5.73E-3	3.62E-3	-3.86E-3	1.67E-2
RWD	kg	3.30E-6	5.84E-8	1.10E-13	3.35E-6	9.95E-8	4.47E-7	5.37E-9	-1.51E-6	2.40E-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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