Environmental Profile

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

Ecochain v3.5.80

Product:	3043829 - Wafix PP Bend 67° GY 50 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	4.86E-2	6.74E-4	1.45E-4	4.94E-2	1.22E-3	1.51E-1	5.73E-4	-7.03E-2	1.32E-1
GWP-f	kg CO2 eq	1.47E-1	6.73E-4	1.46E-4	1.48E-1	1.22E-3	4.55E-2	5.73E-4	-8.33E-2	1.12E-1
GWP-b	kg CO2 eq	-9.83E-2	4.09E-7	-1.54E-6	-9.83E-2	7.38E-7	1.05E-1	4.98E-7	1.31E-2	2.02E-2
GWP-luluc	kg CO2 eq	2.04E-4	2.38E-7	1.49E-7	2.04E-4	4.30E-7	7.61E-6	9.89E-9	-1.60E-4	5.22E-5
ODP	kg CFC11 eq	7.93E-9	1.55E-10	8.26E-12	8.10E-9	2.80E-10	1.25E-9	1.44E-11	-5.80E-9	3.85E-9
AP	mol H+ eq	6.42E-4	3.83E-6	1.47E-6	6.47E-4	6.93E-6	5.10E-5	3.44E-7	-3.24E-4	3.82E-4
EP-fw	kg P eq	4.09E-6	5.54E-9	8.24E-9	4.10E-6	1.00E-8	2.27E-7	4.51E-10	-2.58E-6	1.76E-6
EP-m	kg N eq	1.30E-4	1.37E-6	1.55E-7	1.31E-4	2.48E-6	1.60E-5	2.22E-7	-7.00E-5	8.00E-5
EP-T	mol N eq	1.42E-3	1.51E-5	1.85E-6	1.43E-3	2.73E-5	1.76E-4	1.39E-6	-8.01E-4	8.36E-4
POCP	kg NMVOC eq	5.45E-4	4.32E-6	6.28E-7	5.50E-4	7.81E-6	5.42E-5	5.23E-7	-3.00E-4	3.12E-4
ADP-mm	kg Sb eq	3.98E-6	1.74E-8	1.97E-8	4.02E-6	3.15E-8	1.98E-7	3.48E-10	-7.16E-7	3.53E-6
ADP-f	MJ	4.19E+0	1.03E-2	1.36E-3	4.20E+0	1.87E-2	1.44E-1	1.05E-3	-2.22E+0	2.14E+0
WDP	m3 depriv.	8.68E-2	3.17E-5	5.22E-5	8.69E-2	5.73E-5	2.52E-3	5.77E-6	-5.70E-2	3.25E-2
PM	disease inc.	7.39E-9	6.07E-11	9.08E-12	7.46E-9	1.10E-10	8.05E-10	7.22E-12	-4.55E-9	3.82E-9
IR	kBq U-235 eq	3.99E-3	4.52E-5	1.02E-6	4.03E-3	8.16E-5	4.69E-4	4.86E-6	-2.42E-3	2.17E-3
ETP-fw	CTUe	3.43E+0	8.39E-3	1.21E-2	3.45E+0	1.52E-2	1.75E-1	8.79E-4	-1.77E+0	1.87E+0
HTP-c	CTUh	1.14E-10	2.99E-13	6.17E-13	1.15E-10	5.39E-13	2.12E-11	2.60E-14	-5.40E-11	8.26E-11
HTP-nc	CTUh	1.95E-9	1.00E-11	1.57E-11	1.98E-9	1.81E-11	2.48E-10	5.68E-13	-6.78E-10	1.57E-9
SQP	Pt	9.08E+0	8.84E-3	2.24E-3	9.10E+0	1.60E-2	1.12E-1	2.69E-3	-9.57E+0	-3.47E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.99E+0	1.48E-4	2.40E-2	2.01E+0	2.68E-4	6.66E-3	4.04E-5	-1.53E+0	4.87E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.99E+0	1.48E-4	2.40E-2	2.01E+0	2.68E-4	6.66E-3	4.04E-5	-1.53E+0	4.87E-1
PENRE	MJ	4.50E+0	1.10E-2	1.44E-3	4.51E+0	1.98E-2	1.53E-1	1.11E-3	-2.39E+0	2.29E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.50E+0	1.10E-2	1.44E-3	4.51E+0	1.98E-2	1.53E-1	1.11E-3	-2.39E+0	2.29E+0
PET	MJ	6.48E+0	1.11E-2	2.55E-2	6.52E+0	2.01E-2	1.60E-1	1.16E-3	-3.93E+0	2.78E+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	1.65E-3	1.17E-6	1.46E-6	1.65E-3	2.11E-6	7.98E-5	1.29E-6	-1.14E-3	5.91E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.74E-6	2.64E-8	2.73E-13	1.77E-6	4.77E-8	2.58E-7	1.27E-9	-1.37E-6	7.08E-7
NHWD	kg	1.37E-2	6.40E-4	1.05E-6	1.43E-2	1.16E-3	7.37E-3	4.63E-3	-6.65E-3	2.08E-2
RWD	kg	4.05E-6	7.03E-8	1.10E-13	4.12E-6	1.27E-7	6.13E-7	6.85E-9	-2.42E-6	2.45E-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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