Environmental Profile

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

Ecochain v3.5.80

Product:	3020573 - Wafix PP Bend 88° BK 125 SN4 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	7.79E-1	1.90E-3	1.45E-4	7.81E-1	1.07E-2	1.01E+0	5.42E-3	-5.89E-1	1.22E+0
GWP-f	kg CO2 eq	1.22E+0	1.90E-3	1.46E-4	1.23E+0	1.07E-2	5.22E-1	5.42E-3	-6.61E-1	1.10E+0
GWP-b	kg CO2 eq	-4.46E-1	1.15E-6	-1.54E-6	-4.46E-1	6.51E-6	4.85E-1	4.83E-6	7.30E-2	1.12E-1
GWP-luluc	kg CO2 eq	1.32E-3	6.73E-7	1.49E-7	1.32E-3	3.79E-6	6.04E-5	9.45E-8	-8.88E-4	4.94E-4
ODP	kg CFC11 eq	9.41E-8	4.38E-10	8.26E-12	9.46E-8	2.47E-9	9.56E-9	1.38E-10	-4.40E-8	6.27E-8
AP	mol H+ eq	5.37E-3	1.08E-5	1.47E-6	5.38E-3	6.11E-5	4.03E-4	3.31E-6	-2.19E-3	3.65E-3
EP-fw	kg P eq	3.17E-5	1.56E-8	8.24E-9	3.18E-5	8.82E-8	1.80E-6	4.33E-9	-1.57E-5	1.79E-5
EP-m	kg N eq	9.98E-4	3.88E-6	1.55E-7	1.00E-3	2.18E-5	1.26E-4	2.86E-6	-4.56E-4	6.96E-4
EP-T	mol N eq	1.10E-2	4.27E-5	1.85E-6	1.10E-2	2.41E-4	1.38E-3	1.34E-5	-5.18E-3	7.45E-3
POCP	kg NMVOC eq	4.48E-3	1.22E-5	6.28E-7	4.49E-3	6.88E-5	4.21E-4	5.00E-6	-2.01E-3	2.98E-3
ADP-mm	kg Sb eq	9.41E-5	4.92E-8	1.97E-8	9.42E-5	2.77E-7	1.50E-6	3.32E-9	-7.24E-6	8.88E-5
ADP-f	MJ	3.68E+1	2.92E-2	1.36E-3	3.68E+1	1.65E-1	1.12E+0	1.01E-2	-1.78E+1	2.03E+1
WDP	m3 depriv.	7.44E-1	8.96E-5	5.22E-5	7.44E-1	5.05E-4	2.22E-2	5.09E-5	-3.97E-1	3.69E-1
PM	disease inc.	5.98E-8	1.72E-10	9.08E-12	6.00E-8	9.68E-10	6.14E-9	6.92E-11	-2.75E-8	3.97E-8
IR	kBq U-235 eq	4.21E-2	1.28E-4	1.02E-6	4.22E-2	7.19E-4	3.56E-3	4.71E-5	-1.58E-2	3.07E-2
ETP-fw	CTUe	2.47E+1	2.37E-2	1.21E-2	2.47E+1	1.34E-1	1.63E+0	1.06E-2	-1.04E+1	1.61E+1
HTP-c	CTUh	7.82E-10	8.43E-13	6.17E-13	7.83E-10	4.76E-12	1.57E-10	2.50E-13	-2.95E-10	6.50E-10
HTP-nc	CTUh	1.53E-8	2.83E-11	1.57E-11	1.53E-8	1.59E-10	2.00E-9	5.96E-12	-4.15E-9	1.34E-8
SQP	Pt	4.34E+1	2.50E-2	2.24E-3	4.35E+1	1.41E-1	8.67E-1	2.58E-2	-4.66E+1	-2.08E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.20E+1	4.19E-4	2.40E-2	1.20E+1	2.36E-3	5.31E-2	4.02E-4	-7.58E+0	4.47E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.20E+1	4.19E-4	2.40E-2	1.20E+1	2.36E-3	5.31E-2	4.02E-4	-7.58E+0	4.47E+0
PENRE	MJ	3.94E+1	3.10E-2	1.44E-3	3.95E+1	1.75E-1	1.20E+0	1.07E-2	-1.92E+1	2.17E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.94E+1	3.10E-2	1.44E-3	3.95E+1	1.75E-1	1.20E+0	1.07E-2	-1.92E+1	2.17E+1
PET	MJ	5.14E+1	3.14E-2	2.55E-2	5.15E+1	1.77E-1	1.25E+0	1.11E-2	-2.68E+1	2.61E+1
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	1.41E-2	3.30E-6	1.46E-6	1.41E-2	1.86E-5	8.65E-4	1.24E-5	-7.60E-3	7.38E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.29E-5	7.46E-8	2.73E-13	1.30E-5	4.21E-7	2.07E-6	1.21E-8	-9.58E-6	5.89E-6
NHWD	kg	9.38E-2	1.81E-3	1.05E-6	9.56E-2	1.02E-2	5.94E-2	4.43E-2	-3.75E-2	1.72E-1
RWD	kg	4.81E-5	1.98E-7	1.10E-13	4.83E-5	1.12E-6	4.61E-6	6.59E-8	-1.59E-5	3.82E-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

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