Environmental Profile

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

Ecochain v3.5.80

Product:	3020623 - Wafix PP Branch 45° BK 125 SN4 3S
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	1.35E+0	3.73E-3	1.45E-4	1.35E+0	1.98E-2	1.82E+0	9.87E-3	-1.07E+0	2.13E+0
GWP-f	kg CO2 eq	2.19E+0	3.73E-3	1.46E-4	2.19E+0	1.98E-2	9.00E-1	9.88E-3	-1.21E+0	1.91E+0
GWP-b	kg CO2 eq	-8.41E-1	2.26E-6	-1.54E-6	-8.41E-1	1.20E-5	9.21E-1	8.77E-6	1.46E-1	2.26E-1
GWP-luluc	kg CO2 eq	2.44E-3	1.32E-6	1.49E-7	2.45E-3	7.00E-6	1.13E-4	1.71E-7	-1.74E-3	8.29E-4
ODP	kg CFC11 eq	1.57E-7	8.59E-10	8.26E-12	1.57E-7	4.56E-9	1.79E-8	2.50E-10	-7.89E-8	1.01E-7
AP	mol H+ eq	9.28E-3	2.12E-5	1.47E-6	9.30E-3	1.13E-4	7.50E-4	6.00E-6	-4.14E-3	6.03E-3
EP-fw	kg P eq	5.55E-5	3.07E-8	8.24E-9	5.55E-5	1.63E-7	3.37E-6	7.85E-9	-3.03E-5	2.87E-5
EP-m	kg N eq	1.78E-3	7.60E-6	1.55E-7	1.79E-3	4.03E-5	2.33E-4	4.96E-6	-8.60E-4	1.21E-3
EP-T	mol N eq	1.94E-2	8.37E-5	1.85E-6	1.95E-2	4.44E-4	2.57E-3	2.43E-5	-9.78E-3	1.28E-2
POCP	kg NMVOC eq	7.91E-3	2.39E-5	6.28E-7	7.93E-3	1.27E-4	7.85E-4	9.09E-6	-3.77E-3	5.08E-3
ADP-mm	kg Sb eq	1.42E-4	9.64E-8	1.97E-8	1.42E-4	5.11E-7	2.82E-6	6.03E-9	-1.27E-5	1.33E-4
ADP-f	MJ	6.66E+1	5.72E-2	1.36E-3	6.66E+1	3.03E-1	2.10E+0	1.83E-2	-3.29E+1	3.61E+1
WDP	m3 depriv.	1.33E+0	1.76E-4	5.22E-5	1.33E+0	9.31E-4	4.08E-2	9.14E-5	-7.57E-1	6.19E-1
PM	disease inc.	1.05E-7	3.36E-10	9.08E-12	1.06E-7	1.78E-9	1.15E-8	1.26E-10	-5.26E-8	6.65E-8
IR	kBq U-235 eq	7.23E-2	2.50E-4	1.02E-6	7.25E-2	1.33E-3	6.70E-3	8.53E-5	-3.00E-2	5.07E-2
ETP-fw	CTUe	4.28E+1	4.65E-2	1.21E-2	4.28E+1	2.46E-1	2.95E+0	1.85E-2	-2.02E+1	2.58E+1
HTP-c	CTUh	1.28E-9	1.65E-12	6.17E-13	1.29E-9	8.77E-12	2.94E-10	4.53E-13	-5.58E-10	1.03E-9
HTP-nc	CTUh	2.39E-8	5.54E-11	1.57E-11	2.40E-8	2.94E-10	3.70E-9	1.06E-11	-7.78E-9	2.02E-8
SQP	Pt	8.14E+1	4.90E-2	2.24E-3	8.14E+1	2.60E-1	1.63E+0	4.69E-2	-8.96E+1	-6.29E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.63E+1	8.21E-4	2.40E-2	1.63E+1	4.35E-3	9.94E-2	7.27E-4	-1.46E+1	1.76E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.63E+1	8.21E-4	2.40E-2	1.63E+1	4.35E-3	9.94E-2	7.27E-4	-1.46E+1	1.76E+0
PENRE	MJ	7.14E+1	6.07E-2	1.44E-3	7.14E+1	3.22E-1	2.24E+0	1.94E-2	-3.55E+1	3.85E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.14E+1	6.07E-2	1.44E-3	7.14E+1	3.22E-1	2.24E+0	1.94E-2	-3.55E+1	3.85E+1
PET	MJ	8.76E+1	6.16E-2	2.55E-2	8.77E+1	3.26E-1	2.34E+0	2.01E-2	-5.01E+1	4.03E+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	2.48E-2	6.48E-6	1.46E-6	2.48E-2	3.43E-5	1.53E-3	2.26E-5	-1.46E-2	1.18E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.32E-5	1.46E-7	2.73E-13	2.33E-5	7.76E-7	3.85E-6	2.20E-8	-1.75E-5	1.04E-5
NHWD	kg	1.70E-1	3.55E-3	1.05E-6	1.74E-1	1.88E-2	1.10E-1	8.05E-2	-7.12E-2	3.12E-1
RWD	kg	8.15E-5	3.89E-7	1.10E-13	8.19E-5	2.06E-6	8.67E-6	1.20E-7	-2.99E-5	6.28E-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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