Environmental Profile

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

Ecochain v3.5.80

Product:	3020624 - Wafix PP Branch 45° BK 125x110 SN4 2S/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	1.56E+0	3.49E-3	1.45E-4	1.56E+0	1.72E-2	1.80E+0	8.40E-3	-1.13E+0	2.26E+0
GWP-f	kg CO2 eq	2.26E+0	3.48E-3	1.46E-4	2.26E+0	1.72E-2	1.05E+0	8.40E-3	-1.25E+0	2.08E+0
GWP-b	kg CO2 eq	-7.00E-1	2.12E-6	-1.54E-6	-7.00E-1	1.04E-5	7.59E-1	7.40E-6	1.22E-1	1.81E-1
GWP-luluc	kg CO2 eq	2.32E-3	1.23E-6	1.49E-7	2.33E-3	6.08E-6	1.03E-4	1.45E-7	-1.46E-3	9.69E-4
ODP	kg CFC11 eq	1.25E-7	8.03E-10	8.26E-12	1.26E-7	3.96E-9	1.64E-8	2.12E-10	-8.68E-8	6.00E-8
AP	mol H+ eq	9.49E-3	1.98E-5	1.47E-6	9.51E-3	9.79E-5	7.03E-4	5.08E-6	-3.74E-3	6.58E-3
EP-fw	kg P eq	5.84E-5	2.87E-8	8.24E-9	5.84E-5	1.41E-7	3.05E-6	6.64E-9	-2.62E-5	3.54E-5
EP-m	kg N eq	1.81E-3	7.10E-6	1.55E-7	1.81E-3	3.50E-5	2.23E-4	3.86E-6	-7.89E-4	1.29E-3
EP-T	mol N eq	1.98E-2	7.83E-5	1.85E-6	1.99E-2	3.86E-4	2.46E-3	2.06E-5	-8.94E-3	1.38E-2
POCP	kg NMVOC eq	8.17E-3	2.24E-5	6.28E-7	8.19E-3	1.10E-4	7.49E-4	7.70E-6	-3.45E-3	5.60E-3
ADP-mm	kg Sb eq	9.11E-5	9.01E-8	1.97E-8	9.12E-5	4.45E-7	2.56E-6	5.11E-9	-9.91E-6	8.43E-5
ADP-f	MJ	6.76E+1	5.35E-2	1.36E-3	6.76E+1	2.64E-1	1.92E+0	1.55E-2	-3.24E+1	3.74E+1
WDP	m3 depriv.	1.43E+0	1.64E-4	5.22E-5	1.43E+0	8.09E-4	3.62E-2	7.85E-5	-6.76E-1	7.90E-1
PM	disease inc.	1.00E-7	3.14E-10	9.08E-12	1.01E-7	1.55E-9	1.07E-8	1.06E-10	-4.55E-8	6.77E-8
IR	kBq U-235 eq	6.58E-2	2.34E-4	1.02E-6	6.61E-2	1.15E-3	6.12E-3	7.21E-5	-2.66E-2	4.68E-2
ETP-fw	CTUe	4.04E+1	4.34E-2	1.21E-2	4.05E+1	2.14E-1	2.57E+0	1.47E-2	-1.73E+1	2.60E+1
HTP-c	CTUh	1.21E-9	1.55E-12	6.17E-13	1.21E-9	7.62E-12	3.04E-10	3.82E-13	-4.85E-10	1.04E-9
HTP-nc	CTUh	2.37E-8	5.18E-11	1.57E-11	2.38E-8	2.55E-10	3.60E-9	8.77E-12	-6.91E-9	2.07E-8
SQP	Pt	6.87E+1	4.58E-2	2.24E-3	6.87E+1	2.26E-1	1.49E+0	3.97E-2	-7.43E+1	-3.81E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.52E+1	7.67E-4	2.40E-2	1.52E+1	3.78E-3	9.00E-2	6.09E-4	-1.21E+1	3.18E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.52E+1	7.67E-4	2.40E-2	1.52E+1	3.78E-3	9.00E-2	6.09E-4	-1.21E+1	3.18E+0
PENRE	MJ	7.24E+1	5.68E-2	1.44E-3	7.25E+1	2.80E-1	2.04E+0	1.64E-2	-3.50E+1	3.98E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.24E+1	5.68E-2	1.44E-3	7.25E+1	2.80E-1	2.04E+0	1.64E-2	-3.50E+1	3.98E+1
PET	MJ	8.76E+1	5.75E-2	2.55E-2	8.77E+1	2.84E-1	2.13E+0	1.70E-2	-4.71E+1	4.30E+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	2.74E-2	6.05E-6	1.46E-6	2.74E-2	2.98E-5	1.30E-3	1.91E-5	-1.29E-2	1.59E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.06E-5	1.37E-7	2.73E-13	2.08E-5	6.75E-7	3.51E-6	1.87E-8	-1.87E-5	6.33E-6
NHWD	kg	1.71E-1	3.31E-3	1.05E-6	1.75E-1	1.63E-2	1.13E-1	6.82E-2	-6.17E-2	3.10E-1
RWD	kg	6.87E-5	3.64E-7	1.10E-13	6.91E-5	1.79E-6	7.94E-6	1.01E-7	-2.67E-5	5.23E-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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