Environmental Profile

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

Ecochain v3.5.80

Product:	3020627 - Wafix PP Branch 45° BK 160x125 SN8 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	1.94E+0	5.64E-3	1.45E-4	1.95E+0	2.79E-2	2.30E+0	1.36E-2	-1.49E+0	2.80E+0
GWP-f	kg CO2 eq	2.98E+0	5.64E-3	1.46E-4	2.98E+0	2.79E-2	1.16E+0	1.36E-2	-1.67E+0	2.51E+0
GWP-b	kg CO2 eq	-1.04E+0	3.42E-6	-1.54E-6	-1.04E+0	1.69E-5	1.14E+0	1.20E-5	1.82E-1	2.84E-1
GWP-luluc	kg CO2 eq	3.09E-3	2.00E-6	1.49E-7	3.09E-3	9.86E-6	1.62E-4	2.34E-7	-2.20E-3	1.07E-3
ODP	kg CFC11 eq	1.76E-7	1.30E-9	8.26E-12	1.78E-7	6.42E-9	2.49E-8	3.43E-10	-1.03E-7	1.06E-7
AP	mol H+ eq	1.24E-2	3.21E-5	1.47E-6	1.24E-2	1.59E-4	1.04E-3	8.21E-6	-5.62E-3	7.97E-3
EP-fw	kg P eq	7.22E-5	4.64E-8	8.24E-9	7.23E-5	2.29E-7	4.79E-6	1.07E-8	-3.97E-5	3.76E-5
EP-m	kg N eq	2.35E-3	1.15E-5	1.55E-7	2.36E-3	5.68E-5	3.21E-4	6.22E-6	-1.15E-3	1.59E-3
EP-T	mol N eq	2.57E-2	1.27E-4	1.85E-6	2.58E-2	6.26E-4	3.53E-3	3.33E-5	-1.31E-2	1.69E-2
POCP	kg NMVOC eq	1.05E-2	3.62E-5	6.28E-7	1.05E-2	1.79E-4	1.09E-3	1.25E-5	-5.12E-3	6.70E-3
ADP-mm	kg Sb eq	1.36E-4	1.46E-7	1.97E-8	1.36E-4	7.21E-7	3.97E-6	8.26E-9	-1.54E-5	1.26E-4
ADP-f	MJ	9.19E+1	8.66E-2	1.36E-3	9.20E+1	4.28E-1	2.98E+0	2.51E-2	-4.63E+1	4.91E+1
WDP	m3 depriv.	1.84E+0	2.66E-4	5.22E-5	1.84E+0	1.31E-3	5.67E-2	1.26E-4	-1.04E+0	8.56E-1
PM	disease inc.	1.35E-7	5.09E-10	9.08E-12	1.36E-7	2.52E-9	1.63E-8	1.72E-10	-6.94E-8	8.56E-8
IR	kBq U-235 eq	8.69E-2	3.78E-4	1.02E-6	8.73E-2	1.87E-3	9.44E-3	1.17E-4	-3.96E-2	5.91E-2
ETP-fw	CTUe	5.47E+1	7.03E-2	1.21E-2	5.48E+1	3.47E-1	3.92E+0	2.37E-2	-2.58E+1	3.32E+1
HTP-c	CTUh	1.71E-9	2.50E-12	6.17E-13	1.71E-9	1.24E-11	4.22E-10	6.18E-13	-7.20E-10	1.42E-9
HTP-nc	CTUh	3.28E-8	8.38E-11	1.57E-11	3.29E-8	4.14E-10	5.21E-9	1.42E-11	-1.05E-8	2.80E-8
SQP	Pt	1.01E+2	7.40E-2	2.24E-3	1.01E+2	3.66E-1	2.32E+0	6.43E-2	-1.11E+2	-7.60E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.36E+1	1.24E-3	2.40E-2	2.36E+1	6.14E-3	1.41E-1	9.86E-4	-1.82E+1	5.57E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.36E+1	1.24E-3	2.40E-2	2.36E+1	6.14E-3	1.41E-1	9.86E-4	-1.82E+1	5.57E+0
PENRE	MJ	9.85E+1	9.19E-2	1.44E-3	9.86E+1	4.54E-1	3.17E+0	2.66E-2	-4.99E+1	5.24E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.85E+1	9.19E-2	1.44E-3	9.86E+1	4.54E-1	3.17E+0	2.66E-2	-4.99E+1	5.24E+1
PET	MJ	1.22E+2	9.31E-2	2.55E-2	1.22E+2	4.60E-1	3.31E+0	2.76E-2	-6.81E+1	5.79E+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	3.32E-2	9.79E-6	1.46E-6	3.32E-2	4.84E-5	1.97E-3	3.09E-5	-1.96E-2	1.56E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.84E-5	2.21E-7	2.73E-13	2.86E-5	1.09E-6	5.32E-6	3.02E-8	-2.28E-5	1.23E-5
NHWD	kg	2.16E-1	5.36E-3	1.05E-6	2.21E-1	2.65E-2	1.55E-1	1.10E-1	-9.26E-2	4.20E-1
RWD	kg	9.40E-5	5.89E-7	1.10E-13	9.46E-5	2.91E-6	1.22E-5	1.64E-7	-3.91E-5	7.08E-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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