Environmental Profile

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

Ecochain v3.5.80

Product:	3020647 - Wafix PP Branch 88° BK 50x50x50 S/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	1.03E-1	1.05E-3	1.45E-4	1.04E-1	1.88E-3	1.71E-1	8.86E-4	-1.01E-1	1.77E-1
GWP-f	kg CO2 eq	2.01E-1	1.05E-3	1.46E-4	2.02E-1	1.88E-3	6.48E-2	8.86E-4	-1.14E-1	1.55E-1
GWP-b	kg CO2 eq	-9.85E-2	6.38E-7	-1.54E-6	-9.85E-2	1.14E-6	1.06E-1	7.71E-7	1.33E-2	2.10E-2
GWP-luluc	kg CO2 eq	2.34E-4	3.72E-7	1.49E-7	2.35E-4	6.65E-7	1.14E-5	1.51E-8	-1.72E-4	7.50E-5
ODP	kg CFC11 eq	1.19E-8	2.42E-10	8.26E-12	1.21E-8	4.33E-10	1.76E-9	2.22E-11	-7.01E-9	7.31E-9
AP	mol H+ eq	8.43E-4	5.99E-6	1.47E-6	8.50E-4	1.07E-5	7.20E-5	5.30E-7	-4.15E-4	5.19E-4
EP-fw	kg P eq	5.06E-6	8.65E-9	8.24E-9	5.08E-6	1.55E-8	3.35E-7	6.93E-10	-3.00E-6	2.44E-6
EP-m	kg N eq	1.65E-4	2.14E-6	1.55E-7	1.67E-4	3.83E-6	2.22E-5	3.45E-7	-8.64E-5	1.07E-4
EP-T	mol N eq	1.80E-3	2.36E-5	1.85E-6	1.83E-3	4.22E-5	2.44E-4	2.15E-6	-9.83E-4	1.13E-3
POCP	kg NMVOC eq	7.21E-4	6.75E-6	6.28E-7	7.28E-4	1.21E-5	7.56E-5	8.08E-7	-3.81E-4	4.35E-4
ADP-mm	kg Sb eq	6.99E-6	2.72E-8	1.97E-8	7.04E-6	4.86E-8	2.81E-7	5.35E-10	-9.27E-7	6.44E-6
ADP-f	MJ	6.11E+0	1.61E-2	1.36E-3	6.13E+0	2.89E-2	2.09E-1	1.62E-3	-3.20E+0	3.17E+0
WDP	m3 depriv.	1.23E-1	4.95E-5	5.22E-5	1.23E-1	8.85E-5	3.79E-3	8.38E-6	-7.50E-2	5.19E-2
PM	disease inc.	9.54E-9	9.49E-11	9.08E-12	9.64E-9	1.70E-10	1.15E-9	1.12E-11	-5.36E-9	5.61E-9
IR	kBq U-235 eq	5.90E-3	7.05E-5	1.02E-6	5.97E-3	1.26E-4	6.69E-4	7.52E-6	-2.92E-3	3.86E-3
ETP-fw	CTUe	3.83E+0	1.31E-2	1.21E-2	3.85E+0	2.34E-2	2.50E-1	1.36E-3	-1.96E+0	2.17E+0
HTP-c	CTUh	1.22E-10	4.66E-13	6.17E-13	1.23E-10	8.34E-13	3.01E-11	3.98E-14	-5.97E-11	9.46E-11
HTP-nc	CTUh	2.19E-9	1.56E-11	1.57E-11	2.22E-9	2.79E-11	3.58E-10	8.75E-13	-8.42E-10	1.77E-9
SQP	Pt	9.23E+0	1.38E-2	2.24E-3	9.25E+0	2.47E-2	1.64E-1	4.16E-3	-9.76E+0	-3.23E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.80E+0	2.31E-4	2.40E-2	1.82E+0	4.14E-4	9.89E-3	6.27E-5	-1.58E+0	2.54E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.80E+0	2.31E-4	2.40E-2	1.82E+0	4.14E-4	9.89E-3	6.27E-5	-1.58E+0	2.54E-1
PENRE	MJ	6.56E+0	1.71E-2	1.44E-3	6.58E+0	3.06E-2	2.23E-1	1.72E-3	-3.45E+0	3.38E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.56E+0	1.71E-2	1.44E-3	6.58E+0	3.06E-2	2.23E-1	1.72E-3	-3.45E+0	3.38E+0
PET	MJ	8.35E+0	1.74E-2	2.55E-2	8.40E+0	3.10E-2	2.33E-1	1.78E-3	-5.02E+0	3.64E+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	2.24E-3	1.83E-6	1.46E-6	2.25E-3	3.26E-6	1.18E-4	2.00E-6	-1.42E-3	9.47E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.12E-6	4.13E-8	2.73E-13	2.16E-6	7.38E-8	3.67E-7	1.96E-9	-1.60E-6	9.99E-7
NHWD	kg	1.64E-2	1.00E-3	1.05E-6	1.74E-2	1.79E-3	1.06E-2	7.15E-3	-7.52E-3	2.94E-2
RWD	kg	6.32E-6	1.10E-7	1.10E-13	6.43E-6	1.96E-7	8.67E-7	1.06E-8	-2.88E-6	4.62E-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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