Environmental Profile

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

Ecochain v3.5.80

Product:	3043852 - Wafix PP Pipe GY 32 L=0.25 L/CH
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	1.75E-1	7.85E-4	1.45E-4	1.76E-1	2.07E-3	1.08E-1	9.73E-4	-1.02E-1	1.85E-1
GWP-f	kg CO2 eq	2.08E-1	7.84E-4	1.46E-4	2.09E-1	2.06E-3	6.94E-2	9.73E-4	-1.11E-1	1.70E-1
GWP-b	kg CO2 eq	-3.31E-2	4.76E-7	-1.54E-6	-3.31E-2	1.25E-6	3.84E-2	8.47E-7	8.79E-3	1.40E-2
GWP-luluc	kg CO2 eq	1.55E-4	2.78E-7	1.49E-7	1.55E-4	7.30E-7	1.20E-5	1.66E-8	-1.05E-4	6.33E-5
ODP	kg CFC11 eq	8.44E-9	1.81E-10	8.26E-12	8.63E-9	4.76E-10	1.71E-9	2.44E-11	-5.86E-9	4.97E-9
AP	mol H+ eq	8.34E-4	4.47E-6	1.47E-6	8.40E-4	1.18E-5	7.12E-5	5.82E-7	-3.51E-4	5.72E-4
EP-fw	kg P eq	4.35E-6	6.45E-9	8.24E-9	4.36E-6	1.70E-8	3.50E-7	7.60E-10	-2.17E-6	2.57E-6
EP-m	kg N eq	1.49E-4	1.60E-6	1.55E-7	1.51E-4	4.21E-6	2.14E-5	3.79E-7	-6.80E-5	1.09E-4
EP-T	mol N eq	1.66E-3	1.76E-5	1.85E-6	1.68E-3	4.64E-5	2.36E-4	2.36E-6	-7.65E-4	1.20E-3
POCP	kg NMVOC eq	6.86E-4	5.03E-6	6.28E-7	6.92E-4	1.33E-5	7.38E-5	8.87E-7	-3.13E-4	4.67E-4
ADP-mm	kg Sb eq	6.11E-6	2.03E-8	1.97E-8	6.15E-6	5.34E-8	2.79E-7	5.87E-10	-7.96E-7	5.69E-6
ADP-f	MJ	6.63E+0	1.20E-2	1.36E-3	6.65E+0	3.17E-2	2.15E-1	1.78E-3	-3.27E+0	3.63E+0
WDP	m3 depriv.	1.37E-1	3.69E-5	5.22E-5	1.37E-1	9.72E-5	4.06E-3	9.11E-6	-6.92E-2	7.19E-2
PM	disease inc.	8.03E-9	7.08E-11	9.08E-12	8.11E-9	1.86E-10	1.15E-9	1.22E-11	-3.81E-9	5.65E-9
IR	kBq U-235 eq	4.93E-3	5.26E-5	1.02E-6	4.99E-3	1.38E-4	6.67E-4	8.26E-6	-2.30E-3	3.50E-3
ETP-fw	CTUe	3.02E+0	9.77E-3	1.21E-2	3.04E+0	2.57E-2	2.51E-1	1.49E-3	-1.28E+0	2.04E+0
HTP-c	CTUh	8.39E-11	3.48E-13	6.17E-13	8.49E-11	9.15E-13	3.05E-11	4.36E-14	-3.45E-11	8.18E-11
HTP-nc	CTUh	1.99E-9	1.17E-11	1.57E-11	2.01E-9	3.07E-11	3.68E-10	9.60E-13	-7.73E-10	1.64E-9
SQP	Pt	3.60E+0	1.03E-2	2.24E-3	3.62E+0	2.71E-2	1.69E-1	4.57E-3	-4.23E+0	-4.10E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.21E+0	1.73E-4	2.40E-2	1.23E+0	4.54E-4	1.04E-2	6.89E-5	-7.16E-1	5.27E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.21E+0	1.73E-4	2.40E-2	1.23E+0	4.54E-4	1.04E-2	6.89E-5	-7.16E-1	5.27E-1
PENRE	MJ	7.12E+0	1.28E-2	1.44E-3	7.13E+0	3.36E-2	2.29E-1	1.89E-3	-3.52E+0	3.87E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.12E+0	1.28E-2	1.44E-3	7.13E+0	3.36E-2	2.29E-1	1.89E-3	-3.52E+0	3.87E+0
PET	MJ	8.33E+0	1.30E-2	2.55E-2	8.36E+0	3.41E-2	2.40E-1	1.96E-3	-4.24E+0	4.40E+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	2.34E-3	1.36E-6	1.46E-6	2.34E-3	3.58E-6	1.23E-4	2.20E-6	-1.21E-3	1.26E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.50E-6	3.08E-8	2.73E-13	1.53E-6	8.10E-8	3.64E-7	2.15E-9	-1.12E-6	8.59E-7
NHWD	kg	1.26E-2	7.46E-4	1.05E-6	1.33E-2	1.96E-3	1.09E-2	7.85E-3	-4.58E-3	2.94E-2
RWD	kg	4.82E-6	8.19E-8	1.10E-13	4.91E-6	2.15E-7	8.56E-7	1.16E-8	-2.18E-6	3.81E-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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