Environmental Profile

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

Ecochain v3.5.80

Product:	3052482 - Wafix PP Pipe WT 40 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	1.90E-1	6.74E-4	1.45E-4	1.91E-1	1.98E-3	7.48E-2	9.33E-4	-9.30E-2	1.76E-1
GWP-f	kg CO2 eq	1.90E-1	6.73E-4	1.46E-4	1.91E-1	1.98E-3	6.72E-2	9.33E-4	-1.06E-1	1.55E-1
GWP-b	kg CO2 eq	-3.33E-4	4.09E-7	-1.54E-6	-3.34E-4	1.20E-6	7.63E-3	8.10E-7	1.30E-2	2.03E-2
GWP-luluc	kg CO2 eq	1.69E-4	2.38E-7	1.49E-7	1.69E-4	7.01E-7	1.16E-5	1.62E-8	-1.21E-4	6.05E-5
ODP	kg CFC11 eq	7.76E-9	1.55E-10	8.26E-12	7.92E-9	4.56E-10	1.70E-9	2.34E-11	-6.09E-9	4.02E-9
AP	mol H+ eq	7.59E-4	3.83E-6	1.47E-6	7.64E-4	1.13E-5	7.03E-5	5.60E-7	-3.38E-4	5.08E-4
EP-fw	kg P eq	4.26E-6	5.54E-9	8.24E-9	4.28E-6	1.63E-8	3.42E-7	7.38E-10	-2.39E-6	2.25E-6
EP-m	kg N eq	1.39E-4	1.37E-6	1.55E-7	1.40E-4	4.03E-6	2.12E-5	3.61E-7	-6.42E-5	1.02E-4
EP-T	mol N eq	1.53E-3	1.51E-5	1.85E-6	1.54E-3	4.45E-5	2.34E-4	2.27E-6	-7.20E-4	1.10E-3
POCP	kg NMVOC eq	6.14E-4	4.32E-6	6.28E-7	6.19E-4	1.27E-5	7.31E-5	8.52E-7	-2.90E-4	4.15E-4
ADP-mm	kg Sb eq	5.47E-6	1.74E-8	1.97E-8	5.51E-6	5.12E-8	2.79E-7	5.67E-10	-7.43E-7	5.10E-6
ADP-f	MJ	6.02E+0	1.03E-2	1.36E-3	6.04E+0	3.04E-2	2.10E-1	1.71E-3	-3.11E+0	3.17E+0
WDP	m3 depriv.	1.25E-1	3.17E-5	5.22E-5	1.25E-1	9.32E-5	3.93E-3	9.75E-6	-7.38E-2	5.58E-2
PM	disease inc.	7.28E-9	6.07E-11	9.08E-12	7.35E-9	1.79E-10	1.14E-9	1.18E-11	-3.63E-9	5.04E-9
IR	kBq U-235 eq	4.54E-3	4.52E-5	1.02E-6	4.59E-3	1.33E-4	6.56E-4	7.91E-6	-2.34E-3	3.05E-3
ETP-fw	CTUe	3.32E+0	8.39E-3	1.21E-2	3.34E+0	2.47E-2	2.52E-1	1.43E-3	-1.54E+0	2.07E+0
HTP-c	CTUh	7.96E-11	2.99E-13	6.17E-13	8.05E-11	8.78E-13	3.02E-11	4.26E-14	-2.52E-11	8.64E-11
HTP-nc	CTUh	1.87E-9	1.00E-11	1.57E-11	1.90E-9	2.94E-11	3.63E-10	9.27E-13	-5.66E-10	1.72E-9
SQP	Pt	9.92E-1	8.84E-3	2.24E-3	1.00E+0	2.60E-2	1.65E-1	4.39E-3	-2.75E+0	-1.55E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.34E-1	1.48E-4	2.40E-2	5.58E-1	4.36E-4	1.01E-2	6.56E-5	-5.21E-1	4.79E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.34E-1	1.48E-4	2.40E-2	5.58E-1	4.36E-4	1.01E-2	6.56E-5	-5.21E-1	4.79E-2
PENRE	MJ	6.46E+0	1.10E-2	1.44E-3	6.48E+0	3.23E-2	2.24E-1	1.82E-3	-3.35E+0	3.39E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.46E+0	1.10E-2	1.44E-3	6.48E+0	3.23E-2	2.24E-1	1.82E-3	-3.35E+0	3.39E+0
PET	MJ	7.00E+0	1.11E-2	2.55E-2	7.04E+0	3.27E-2	2.34E-1	1.88E-3	-3.87E+0	3.43E+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	2.18E-3	1.17E-6	1.46E-6	2.18E-3	3.44E-6	1.19E-4	2.10E-6	-1.33E-3	9.83E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.42E-6	2.64E-8	2.73E-13	1.45E-6	7.77E-8	3.61E-7	2.07E-9	-1.11E-6	7.79E-7
NHWD	kg	1.20E-2	6.40E-4	1.05E-6	1.26E-2	1.88E-3	1.06E-2	7.53E-3	-3.77E-3	2.88E-2
RWD	kg	4.40E-6	7.03E-8	1.10E-13	4.47E-6	2.07E-7	8.44E-7	1.12E-8	-2.18E-6	3.36E-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

Ecochain

Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777