Environmental Profile

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

Ecochain v3.5.80

Product:	3021902 - Wafix PP End Cap 32 GY
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	3.59E-3	8.18E-5	1.45E-4	3.82E-3	3.69E-4	6.95E-2	1.73E-4	-2.73E-2	4.66E-2
GWP-f	kg CO2 eq	5.23E-2	8.18E-5	1.46E-4	5.25E-2	3.68E-4	1.92E-2	1.73E-4	-3.06E-2	4.16E-2
GWP-b	kg CO2 eq	-4.88E-2	4.96E-8	-1.54E-6	-4.88E-2	2.24E-7	5.03E-2	1.49E-7	3.35E-3	4.93E-3
GWP-luluc	kg CO2 eq	6.25E-5	2.89E-8	1.49E-7	6.27E-5	1.30E-7	2.37E-6	3.19E-9	-5.06E-5	1.46E-5
ODP	kg CFC11 eq	2.70E-9	1.88E-11	8.26E-12	2.72E-9	8.49E-11	3.97E-10	4.37E-12	-2.68E-9	5.26E-10
AP	mol H+ eq	2.31E-4	4.66E-7	1.47E-6	2.33E-4	2.10E-6	1.65E-5	1.05E-7	-1.14E-4	1.37E-4
EP-fw	kg P eq	1.43E-6	6.73E-10	8.24E-9	1.44E-6	3.03E-9	7.07E-8	1.43E-10	-8.46E-7	6.67E-7
EP-m	kg N eq	4.66E-5	1.67E-7	1.55E-7	4.69E-5	7.51E-7	5.29E-6	6.61E-8	-2.57E-5	2.74E-5
EP-T	mol N eq	5.18E-4	1.84E-6	1.85E-6	5.21E-4	8.28E-6	5.84E-5	4.25E-7	-2.94E-4	2.94E-4
POCP	kg NMVOC eq	2.05E-4	5.25E-7	6.28E-7	2.06E-4	2.37E-6	1.77E-5	1.59E-7	-1.11E-4	1.15E-4
ADP-mm	kg Sb eq	9.55E-7	2.12E-9	1.97E-8	9.77E-7	9.53E-9	6.11E-8	1.08E-10	-2.65E-7	7.82E-7
ADP-f	MJ	1.44E+0	1.26E-3	1.36E-3	1.44E+0	5.66E-3	4.51E-2	3.20E-4	-7.60E-1	7.35E-1
WDP	m3 depriv.	3.08E-2	3.85E-6	5.22E-5	3.09E-2	1.74E-5	7.78E-4	2.42E-6	-1.74E-2	1.42E-2
PM	disease inc.	2.73E-9	7.38E-12	9.08E-12	2.75E-9	3.33E-11	2.54E-10	2.20E-12	-1.64E-9	1.40E-9
IR	kBq U-235 eq	1.39E-3	5.49E-6	1.02E-6	1.40E-3	2.47E-5	1.48E-4	1.47E-6	-8.29E-4	7.47E-4
ETP-fw	CTUe	1.04E+0	1.02E-3	1.21E-2	1.05E+0	4.59E-3	5.43E-2	2.68E-4	-5.49E-1	5.64E-1
HTP-c	CTUh	4.63E-11	3.63E-14	6.17E-13	4.69E-11	1.63E-13	7.62E-12	8.42E-15	-2.32E-11	3.15E-11
HTP-nc	CTUh	6.91E-10	1.21E-12	1.57E-11	7.08E-10	5.48E-12	8.25E-11	1.76E-13	-2.17E-10	5.79E-10
SQP	Pt	4.32E+0	1.07E-3	2.24E-3	4.32E+0	4.84E-3	3.54E-2	8.17E-4	-4.06E+0	3.01E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.58E-1	1.80E-5	2.40E-2	7.82E-1	8.12E-5	2.08E-3	1.19E-5	-6.32E-1	1.52E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.58E-1	1.80E-5	2.40E-2	7.82E-1	8.12E-5	2.08E-3	1.19E-5	-6.32E-1	1.52E-1
PENRE	MJ	1.55E+0	1.33E-3	1.44E-3	1.55E+0	6.01E-3	4.80E-2	3.39E-4	-8.19E-1	7.84E-1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.55E+0	1.33E-3	1.44E-3	1.55E+0	6.01E-3	4.80E-2	3.39E-4	-8.19E-1	7.84E-1
PET	MJ	2.30E+0	1.35E-3	2.55E-2	2.33E+0	6.09E-3	5.01E-2	3.51E-4	-1.45E+0	9.36E-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	6.02E-4	1.42E-7	1.46E-6	6.03E-4	6.40E-7	2.56E-5	3.91E-7	-3.39E-4	2.91E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.87E-7	3.21E-9	2.73E-13	6.90E-7	1.45E-8	8.25E-8	3.93E-10	-6.03E-7	1.84E-7
NHWD	kg	5.46E-3	7.78E-5	1.05E-6	5.54E-3	3.51E-4	2.56E-3	1.40E-3	-2.73E-3	7.13E-3
RWD	kg	1.38E-6	8.53E-9	1.10E-13	1.39E-6	3.85E-8	1.94E-7	2.08E-9	-8.59E-7	7.68E-7
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 Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777