Environmental Profile

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

Ecochain v3.5.80

Product:	3043900 - Wafix PP End Cap 50 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	2.39E-2	9.48E-5	1.45E-4	2.42E-2	6.06E-4	7.75E-2	2.85E-4	-3.89E-2	6.37E-2
GWP-f	kg CO2 eq	7.30E-2	9.47E-5	1.46E-4	7.33E-2	6.05E-4	2.64E-2	2.85E-4	-4.22E-2	5.84E-2
GWP-b	kg CO2 eq	-4.92E-2	5.75E-8	-1.54E-6	-4.92E-2	3.68E-7	5.11E-2	2.47E-7	3.33E-3	5.27E-3
GWP-luluc	kg CO2 eq	8.25E-5	3.35E-8	1.49E-7	8.26E-5	2.14E-7	3.73E-6	5.06E-9	-5.68E-5	2.98E-5
ODP	kg CFC11 eq	3.23E-9	2.18E-11	8.26E-12	3.26E-9	1.40E-10	5.86E-10	7.17E-12	-3.16E-9	8.30E-10
AP	mol H+ eq	3.11E-4	5.39E-7	1.47E-6	3.13E-4	3.45E-6	2.44E-5	1.72E-7	-1.48E-4	1.93E-4
EP-fw	kg P eq	1.88E-6	7.79E-10	8.24E-9	1.89E-6	4.98E-9	1.10E-7	2.29E-10	-1.02E-6	9.87E-7
EP-m	kg N eq	6.08E-5	1.93E-7	1.55E-7	6.11E-5	1.23E-6	7.62E-6	1.10E-7	-3.20E-5	3.81E-5
EP-T	mol N eq	6.72E-4	2.13E-6	1.85E-6	6.76E-4	1.36E-5	8.40E-5	6.96E-7	-3.65E-4	4.09E-4
POCP	kg NMVOC eq	2.70E-4	6.08E-7	6.28E-7	2.71E-4	3.89E-6	2.58E-5	2.61E-7	-1.42E-4	1.59E-4
ADP-mm	kg Sb eq	1.27E-6	2.45E-9	1.97E-8	1.30E-6	1.57E-8	9.23E-8	1.75E-10	-3.44E-7	1.06E-6
ADP-f	MJ	2.13E+0	1.45E-3	1.36E-3	2.13E+0	9.29E-3	6.92E-2	5.24E-4	-1.12E+0	1.09E+0
WDP	m3 depriv.	4.47E-2	4.46E-6	5.22E-5	4.48E-2	2.85E-5	1.24E-3	3.36E-6	-2.43E-2	2.18E-2
PM	disease inc.	3.46E-9	8.55E-12	9.08E-12	3.48E-9	5.47E-11	3.83E-10	3.60E-12	-1.96E-9	1.95E-9
IR	kBq U-235 eq	1.79E-3	6.35E-6	1.02E-6	1.80E-3	4.06E-5	2.23E-4	2.42E-6	-1.03E-3	1.04E-3
ETP-fw	CTUe	1.28E+0	1.18E-3	1.21E-2	1.30E+0	7.55E-3	8.24E-2	4.39E-4	-6.39E-1	7.48E-1
HTP-c	CTUh	5.36E-11	4.20E-14	6.17E-13	5.42E-11	2.69E-13	1.09E-11	1.33E-14	-2.54E-11	4.00E-11
HTP-nc	CTUh	8.91E-10	1.41E-12	1.57E-11	9.08E-10	9.00E-12	1.23E-10	2.86E-13	-2.82E-10	7.58E-10
SQP	Pt	4.40E+0	1.24E-3	2.24E-3	4.40E+0	7.95E-3	5.45E-2	1.34E-3	-4.18E+0	2.84E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.77E-1	2.09E-5	2.40E-2	9.01E-1	1.33E-4	3.25E-3	1.99E-5	-6.57E-1	2.47E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.77E-1	2.09E-5	2.40E-2	9.01E-1	1.33E-4	3.25E-3	1.99E-5	-6.57E-1	2.47E-1
PENRE	MJ	2.28E+0	1.54E-3	1.44E-3	2.28E+0	9.87E-3	7.37E-2	5.56E-4	-1.20E+0	1.17E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.28E+0	1.54E-3	1.44E-3	2.28E+0	9.87E-3	7.37E-2	5.56E-4	-1.20E+0	1.17E+0
PET	MJ	3.16E+0	1.56E-3	2.55E-2	3.19E+0	1.00E-2	7.69E-2	5.76E-4	-1.86E+0	1.41E+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	8.30E-4	1.65E-7	1.46E-6	8.32E-4	1.05E-6	3.94E-5	6.43E-7	-4.51E-4	4.22E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.96E-7	3.72E-9	2.73E-13	7.99E-7	2.38E-8	1.23E-7	6.38E-10	-6.96E-7	2.51E-7
NHWD	kg	6.35E-3	9.01E-5	1.05E-6	6.44E-3	5.76E-4	3.75E-3	2.30E-3	-3.09E-3	9.98E-3
RWD	kg	1.74E-6	9.89E-9	1.10E-13	1.75E-6	6.32E-8	2.89E-7	3.41E-9	-1.05E-6	1.06E-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 Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
https://www.ecochain.com
+31 20 3035 777