Environmental Profile

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

Ecochain v3.5.80

Product:	3020637 - Wafix PP Branch 45° WT 40x40x40 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

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.09E-1	1.07E-3	1.45E-4	1.11E-1	1.80E-3	1.73E-1	8.48E-4	-1.00E-1	1.86E-1
GWP-f	kg CO2 eq	2.08E-1	1.07E-3	1.46E-4	2.09E-1	1.80E-3	6.72E-2	8.48E-4	-1.13E-1	1.65E-1
GWP-b	kg CO2 eq	-9.82E-2	6.51E-7	-1.54E-6	-9.82E-2	1.09E-6	1.05E-1	7.36E-7	1.30E-2	2.02E-2
GWP-luluc	kg CO2 eq	2.30E-4	3.79E-7	1.49E-7	2.31E-4	6.37E-7	1.09E-5	1.48E-8	-1.66E-4	7.65E-5
ODP	kg CFC11 eq	1.17E-8	2.47E-10	8.26E-12	1.19E-8	4.15E-10	1.69E-9	2.13E-11	-7.62E-9	6.45E-9
AP	mol H+ eq	8.98E-4	6.11E-6	1.47E-6	9.05E-4	1.03E-5	6.97E-5	5.10E-7	-4.03E-4	5.82E-4
EP-fw	kg P eq	5.34E-6	8.82E-9	8.24E-9	5.36E-6	1.48E-8	3.22E-7	6.73E-10	-2.91E-6	2.78E-6
EP-m	kg N eq	1.71E-4	2.18E-6	1.55E-7	1.74E-4	3.67E-6	2.15E-5	3.28E-7	-8.43E-5	1.15E-4
EP-T	mol N eq	1.90E-3	2.41E-5	1.85E-6	1.92E-3	4.04E-5	2.37E-4	2.07E-6	-9.59E-4	1.24E-3
POCP	kg NMVOC eq	7.49E-4	6.88E-6	6.28E-7	7.56E-4	1.16E-5	7.33E-5	7.75E-7	-3.71E-4	4.71E-4
ADP-mm	kg Sb eq	8.37E-6	2.77E-8	1.97E-8	8.42E-6	4.66E-8	2.70E-7	5.17E-10	-9.12E-7	7.82E-6
ADP-f	MJ	6.12E+0	1.65E-2	1.36E-3	6.14E+0	2.76E-2	2.01E-1	1.56E-3	-3.12E+0	3.25E+0
WDP	m3 depriv.	1.29E-1	5.05E-5	5.22E-5	1.29E-1	8.48E-5	3.65E-3	9.04E-6	-7.30E-2	6.00E-2
PM	disease inc.	9.74E-9	9.67E-11	9.08E-12	9.85E-9	1.63E-10	1.11E-9	1.07E-11	-5.20E-9	5.93E-9
IR	kBq U-235 eq	5.92E-3	7.19E-5	1.02E-6	5.99E-3	1.21E-4	6.44E-4	7.20E-6	-2.86E-3	3.90E-3
ETP-fw	CTUe	4.04E+0	1.34E-2	1.21E-2	4.07E+0	2.24E-2	2.41E-1	1.30E-3	-1.89E+0	2.44E+0
HTP-c	CTUh	1.34E-10	4.75E-13	6.17E-13	1.35E-10	7.99E-13	3.00E-11	3.89E-14	-5.91E-11	1.06E-10
HTP-nc	CTUh	2.47E-9	1.59E-11	1.57E-11	2.50E-9	2.68E-11	3.50E-10	8.44E-13	-8.24E-10	2.05E-9
SQP	Pt	9.25E+0	1.41E-2	2.24E-3	9.26E+0	2.36E-2	1.58E-1	3.99E-3	-9.60E+0	-1.52E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.01E+0	2.36E-4	2.40E-2	2.04E+0	3.97E-4	9.50E-3	5.96E-5	-1.55E+0	5.03E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.01E+0	2.36E-4	2.40E-2	2.04E+0	3.97E-4	9.50E-3	5.96E-5	-1.55E+0	5.03E-1
PENRE	MJ	6.56E+0	1.75E-2	1.44E-3	6.58E+0	2.93E-2	2.15E-1	1.65E-3	-3.36E+0	3.47E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.56E+0	1.75E-2	1.44E-3	6.58E+0	2.93E-2	2.15E-1	1.65E-3	-3.36E+0	3.47E+0
PET	MJ	8.58E+0	1.77E-2	2.55E-2	8.62E+0	2.97E-2	2.24E-1	1.71E-3	-4.90E+0	3.97E+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	2.42E-3	1.86E-6	1.46E-6	2.42E-3	3.13E-6	1.14E-4	1.91E-6	-1.37E-3	1.17E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.24E-6	4.21E-8	2.73E-13	2.28E-6	7.07E-8	3.54E-7	1.89E-9	-1.63E-6	1.07E-6
NHWD	kg	1.78E-2	1.02E-3	1.05E-6	1.89E-2	1.71E-3	1.04E-2	6.85E-3	-7.39E-3	3.05E-2
RWD	kg	6.13E-6	1.12E-7	1.10E-13	6.24E-6	1.88E-7	8.35E-7	1.01E-8	-2.83E-6	4.44E-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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