Environmental Profile

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

Ecochain v3.5.80

Product:	3020693 - Wafix PP Reducer BK 160x125
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	5.92E-1	9.58E-4	1.45E-4	5.93E-1	8.05E-3	6.09E-1	3.98E-3	-4.24E-1	7.89E-1
GWP-f	kg CO2 eq	8.37E-1	9.57E-4	1.46E-4	8.38E-1	8.04E-3	3.42E-1	3.98E-3	-4.60E-1	7.32E-1
GWP-b	kg CO2 eq	-2.46E-1	5.81E-7	-1.54E-6	-2.46E-1	4.88E-6	2.67E-1	3.52E-6	3.61E-2	5.67E-2
GWP-luluc	kg CO2 eq	7.35E-4	3.39E-7	1.49E-7	7.35E-4	2.85E-6	4.54E-5	6.89E-8	-4.80E-4	3.03E-4
ODP	kg CFC11 eq	5.36E-8	2.20E-10	8.26E-12	5.39E-8	1.85E-9	6.77E-9	1.01E-10	-2.79E-8	3.47E-8
AP	mol H+ eq	3.54E-3	5.45E-6	1.47E-6	3.55E-3	4.58E-5	2.85E-4	2.41E-6	-1.47E-3	2.41E-3
EP-fw	kg P eq	1.96E-5	7.87E-9	8.24E-9	1.96E-5	6.62E-8	1.34E-6	3.16E-9	-9.44E-6	1.16E-5
EP-m	kg N eq	6.39E-4	1.95E-6	1.55E-7	6.41E-4	1.64E-5	8.73E-5	1.92E-6	-2.96E-4	4.50E-4
EP-T	mol N eq	7.06E-3	2.15E-5	1.85E-6	7.08E-3	1.81E-4	9.61E-4	9.77E-6	-3.35E-3	4.88E-3
POCP	kg NMVOC eq	2.95E-3	6.14E-6	6.28E-7	2.96E-3	5.16E-5	2.96E-4	3.65E-6	-1.35E-3	1.96E-3
ADP-mm	kg Sb eq	5.09E-5	2.48E-8	1.97E-8	5.10E-5	2.08E-7	1.08E-6	2.42E-9	-4.52E-6	4.77E-5
ADP-f	MJ	2.60E+1	1.47E-2	1.36E-3	2.61E+1	1.23E-1	8.25E-1	7.36E-3	-1.29E+1	1.41E+1
WDP	m3 depriv.	5.21E-1	4.51E-5	5.22E-5	5.21E-1	3.79E-4	1.62E-2	3.74E-5	-2.69E-1	2.68E-1
PM	disease inc.	3.77E-8	8.64E-11	9.08E-12	3.78E-8	7.26E-10	4.44E-9	5.05E-11	-1.71E-8	2.59E-8
IR	kBq U-235 eq	2.55E-2	6.42E-5	1.02E-6	2.56E-2	5.40E-4	2.58E-3	3.43E-5	-9.95E-3	1.88E-2
ETP-fw	CTUe	1.43E+1	1.19E-2	1.21E-2	1.43E+1	1.00E-1	1.11E+0	7.23E-3	-5.79E+0	9.73E+0
HTP-c	CTUh	4.87E-10	4.24E-13	6.17E-13	4.88E-10	3.57E-12	1.15E-10	1.82E-13	-1.78E-10	4.29E-10
HTP-nc	CTUh	9.98E-9	1.42E-11	1.57E-11	1.00E-8	1.20E-10	1.44E-9	4.23E-12	-2.73E-9	8.85E-9
SQP	Pt	2.42E+1	1.26E-2	2.24E-3	2.42E+1	1.06E-1	6.45E-1	1.89E-2	-2.51E+1	-1.66E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.77E+0	2.11E-4	2.40E-2	7.80E+0	1.77E-3	3.95E-2	2.91E-4	-4.10E+0	3.74E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.77E+0	2.11E-4	2.40E-2	7.80E+0	1.77E-3	3.95E-2	2.91E-4	-4.10E+0	3.74E+0
PENRE	MJ	2.79E+1	1.56E-2	1.44E-3	2.79E+1	1.31E-1	8.79E-1	7.81E-3	-1.39E+1	1.51E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.79E+1	1.56E-2	1.44E-3	2.79E+1	1.31E-1	8.79E-1	7.81E-3	-1.39E+1	1.51E+1
PET	MJ	3.57E+1	1.58E-2	2.55E-2	3.57E+1	1.33E-1	9.18E-1	8.10E-3	-1.80E+1	1.88E+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	9.33E-3	1.66E-6	1.46E-6	9.34E-3	1.40E-5	5.85E-4	9.08E-6	-4.86E-3	5.09E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.60E-6	3.76E-8	2.73E-13	7.64E-6	3.16E-7	1.47E-6	8.86E-9	-5.89E-6	3.53E-6
NHWD	kg	5.62E-2	9.10E-4	1.05E-6	5.71E-2	7.65E-3	4.28E-2	3.24E-2	-2.28E-2	1.17E-1
RWD	kg	2.83E-5	9.99E-8	1.10E-13	2.84E-5	8.40E-7	3.32E-6	4.81E-8	-9.82E-6	2.27E-5
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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