Environmental Profile

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

Ecochain v3.5.80

Product:	3043885 - Wafix PP Reducer GY 110/90 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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.38E-1	2.53E-3	1.45E-4	3.41E-1	5.24E-3	3.31E-1	2.47E-3	-2.64E-1	4.16E-1
GWP-f	kg CO2 eq	4.85E-1	2.53E-3	1.46E-4	4.87E-1	5.23E-3	1.69E-1	2.47E-3	-2.88E-1	3.76E-1
GWP-b	kg CO2 eq	-1.47E-1	1.54E-6	-1.54E-6	-1.47E-1	3.18E-6	1.62E-1	2.15E-6	2.43E-2	3.95E-2
GWP-luluc	kg CO2 eq	4.67E-4	8.96E-7	1.49E-7	4.68E-4	1.85E-6	3.08E-5	4.22E-8	-3.16E-4	1.85E-4
ODP	kg CFC11 eq	1.82E-8	5.83E-10	8.26E-12	1.88E-8	1.21E-9	4.48E-9	6.19E-11	-1.58E-8	8.75E-9
AP	mol H+ eq	2.01E-3	1.44E-5	1.47E-6	2.02E-3	2.98E-5	1.85E-4	1.48E-6	-9.67E-4	1.28E-3
EP-fw	kg P eq	1.13E-5	2.08E-8	8.24E-9	1.13E-5	4.31E-8	9.02E-7	1.93E-9	-6.24E-6	6.02E-6
EP-m	kg N eq	3.71E-4	5.16E-6	1.55E-7	3.77E-4	1.07E-5	5.60E-5	9.60E-7	-1.92E-4	2.53E-4
EP-T	mol N eq	4.08E-3	5.69E-5	1.85E-6	4.14E-3	1.18E-4	6.16E-4	6.00E-6	-2.17E-3	2.71E-3
POCP	kg NMVOC eq	1.64E-3	1.63E-5	6.28E-7	1.66E-3	3.36E-5	1.92E-4	2.25E-6	-8.77E-4	1.01E-3
ADP-mm	kg Sb eq	9.42E-6	6.55E-8	1.97E-8	9.50E-6	1.35E-7	7.29E-7	1.49E-9	-2.19E-6	8.18E-6
ADP-f	MJ	1.49E+1	3.89E-2	1.36E-3	1.49E+1	8.03E-2	5.56E-1	4.52E-3	-8.38E+0	7.20E+0
WDP	m3 depriv.	3.03E-1	1.19E-4	5.22E-5	3.03E-1	2.47E-4	1.04E-2	2.34E-5	-1.83E-1	1.31E-1
PM	disease inc.	2.02E-8	2.29E-10	9.08E-12	2.05E-8	4.72E-10	2.99E-9	3.11E-11	-1.12E-8	1.27E-8
IR	kBq U-235 eq	1.05E-2	1.70E-4	1.02E-6	1.07E-2	3.51E-4	1.74E-3	2.09E-5	-6.38E-3	6.43E-3
ETP-fw	CTUe	9.07E+0	3.16E-2	1.21E-2	9.12E+0	6.52E-2	6.53E-1	3.78E-3	-3.81E+0	6.03E+0
HTP-c	CTUh	3.07E-10	1.12E-12	6.17E-13	3.09E-10	2.32E-12	7.82E-11	1.11E-13	-1.12E-10	2.78E-10
HTP-nc	CTUh	6.36E-9	3.76E-11	1.57E-11	6.41E-9	7.78E-11	9.45E-10	2.44E-12	-1.77E-9	5.67E-9
SQP	Pt	1.46E+1	3.32E-2	2.24E-3	1.47E+1	6.87E-2	4.38E-1	1.16E-2	-1.57E+1	-4.95E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.70E+0	5.58E-4	2.40E-2	5.72E+0	1.15E-3	2.66E-2	1.75E-4	-2.58E+0	3.17E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.70E+0	5.58E-4	2.40E-2	5.72E+0	1.15E-3	2.66E-2	1.75E-4	-2.58E+0	3.17E+0
PENRE	MJ	1.60E+1	4.13E-2	1.44E-3	1.60E+1	8.53E-2	5.92E-1	4.79E-3	-9.03E+0	7.68E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.60E+1	4.13E-2	1.44E-3	1.60E+1	8.53E-2	5.92E-1	4.79E-3	-9.03E+0	7.68E+0
PET	MJ	2.17E+1	4.18E-2	2.55E-2	2.18E+1	8.65E-2	6.18E-1	4.97E-3	-1.16E+1	1.09E+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	5.21E-3	4.40E-6	1.46E-6	5.21E-3	9.09E-6	3.14E-4	5.57E-6	-3.26E-3	2.28E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.98E-6	9.94E-8	2.73E-13	4.08E-6	2.05E-7	9.49E-7	5.45E-9	-3.40E-6	1.84E-6
NHWD	kg	3.21E-2	2.41E-3	1.05E-6	3.45E-2	4.98E-3	2.77E-2	1.99E-2	-1.46E-2	7.26E-2
RWD	kg	9.93E-6	2.64E-7	1.10E-13	1.02E-5	5.46E-7	2.24E-6	2.95E-8	-6.15E-6	6.85E-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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