Environmental Profile

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

Ecochain v3.5.80

Product:	3043905 - Wafix PP Reducer GY 50x32
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	6.74E-2	4.73E-4	1.45E-4	6.81E-2	8.54E-4	8.77E-2	4.02E-4	-4.85E-2	1.09E-1
GWP-f	kg CO2 eq	1.16E-1	4.72E-4	1.46E-4	1.17E-1	8.53E-4	3.44E-2	4.02E-4	-5.69E-2	9.57E-2
GWP-b	kg CO2 eq	-4.90E-2	2.87E-7	-1.54E-6	-4.90E-2	5.18E-7	5.33E-2	3.49E-7	8.45E-3	1.28E-2
GWP-luluc	kg CO2 eq	1.30E-4	1.67E-7	1.49E-7	1.31E-4	3.02E-7	5.27E-6	7.02E-9	-9.48E-5	4.14E-5
ODP	kg CFC11 eq	6.85E-9	1.09E-10	8.26E-12	6.97E-9	1.97E-10	8.42E-10	1.01E-11	-3.99E-9	4.03E-9
AP	mol H+ eq	5.20E-4	2.69E-6	1.47E-6	5.24E-4	4.86E-6	3.47E-5	2.41E-7	-2.06E-4	3.58E-4
EP-fw	kg P eq	3.10E-6	3.89E-9	8.24E-9	3.12E-6	7.02E-9	1.56E-7	3.19E-10	-1.60E-6	1.68E-6
EP-m	kg N eq	9.79E-5	9.63E-7	1.55E-7	9.90E-5	1.74E-6	1.08E-5	1.55E-7	-4.35E-5	6.83E-5
EP-T	mol N eq	1.09E-3	1.06E-5	1.85E-6	1.10E-3	1.92E-5	1.19E-4	9.79E-7	-4.95E-4	7.45E-4
POCP	kg NMVOC eq	4.21E-4	3.03E-6	6.28E-7	4.24E-4	5.48E-6	3.67E-5	3.67E-7	-1.88E-4	2.79E-4
ADP-mm	kg Sb eq	5.04E-6	1.22E-8	1.97E-8	5.07E-6	2.21E-8	1.34E-7	2.45E-10	-4.54E-7	4.77E-6
ADP-f	MJ	3.34E+0	7.25E-3	1.36E-3	3.35E+0	1.31E-2	9.83E-2	7.38E-4	-1.53E+0	1.93E+0
WDP	m3 depriv.	7.24E-2	2.23E-5	5.22E-5	7.24E-2	4.02E-5	1.75E-3	4.33E-6	-3.80E-2	3.62E-2
PM	disease inc.	5.55E-9	4.27E-11	9.08E-12	5.60E-9	7.70E-11	5.48E-10	5.07E-12	-2.73E-9	3.50E-9
IR	kBq U-235 eq	3.36E-3	3.17E-5	1.02E-6	3.39E-3	5.72E-5	3.17E-4	3.41E-6	-1.51E-3	2.26E-3
ETP-fw	CTUe	2.52E+0	5.89E-3	1.21E-2	2.53E+0	1.06E-2	1.19E-1	6.17E-4	-1.08E+0	1.58E+0
HTP-c	CTUh	8.14E-11	2.10E-13	6.17E-13	8.22E-11	3.78E-13	1.49E-11	1.85E-14	-3.04E-11	6.72E-11
HTP-nc	CTUh	1.55E-9	7.02E-12	1.57E-11	1.57E-9	1.27E-11	1.73E-10	4.00E-13	-3.89E-10	1.37E-9
SQP	Pt	4.75E+0	6.21E-3	2.24E-3	4.75E+0	1.12E-2	7.68E-2	1.89E-3	-5.12E+0	-2.74E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.22E+0	1.04E-4	2.40E-2	1.24E+0	1.88E-4	4.60E-3	2.82E-5	-8.29E-1	4.16E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.22E+0	1.04E-4	2.40E-2	1.24E+0	1.88E-4	4.60E-3	2.82E-5	-8.29E-1	4.16E-1
PENRE	MJ	3.58E+0	7.70E-3	1.44E-3	3.59E+0	1.39E-2	1.05E-1	7.83E-4	-1.65E+0	2.06E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.58E+0	7.70E-3	1.44E-3	3.59E+0	1.39E-2	1.05E-1	7.83E-4	-1.65E+0	2.06E+0
PET	MJ	4.80E+0	7.80E-3	2.55E-2	4.83E+0	1.41E-2	1.09E-1	8.11E-4	-2.48E+0	2.47E+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	1.39E-3	8.21E-7	1.46E-6	1.39E-3	1.48E-6	5.53E-5	9.06E-7	-7.39E-4	7.08E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.29E-6	1.85E-8	2.73E-13	1.30E-6	3.35E-8	1.75E-7	8.94E-10	-8.79E-7	6.36E-7
NHWD	kg	1.06E-2	4.50E-4	1.05E-6	1.10E-2	8.11E-4	5.16E-3	3.24E-3	-3.80E-3	1.64E-2
RWD	kg	3.47E-6	4.93E-8	1.10E-13	3.52E-6	8.90E-8	4.13E-7	4.81E-9	-1.50E-6	2.53E-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