Environmental Profile

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

Ecochain v3.5.80

Product:	3043887 - Wafix PP Reducer GY 50x40 Short
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	5.66E-2	4.51E-4	1.45E-4	5.72E-2	9.27E-4	8.68E-2	4.37E-4	-5.36E-2	9.18E-2
GWP-f	kg CO2 eq	1.06E-1	4.51E-4	1.46E-4	1.06E-1	9.26E-4	3.57E-2	4.37E-4	-5.68E-2	8.65E-2
GWP-b	kg CO2 eq	-4.91E-2	2.74E-7	-1.54E-6	-4.91E-2	5.63E-7	5.11E-2	3.79E-7	3.27E-3	5.27E-3
GWP-luluc	kg CO2 eq	9.69E-5	1.60E-7	1.49E-7	9.72E-5	3.28E-7	5.52E-6	7.60E-9	-5.99E-5	4.31E-5
ODP	kg CFC11 eq	5.57E-9	1.04E-10	8.26E-12	5.68E-9	2.14E-10	8.17E-10	1.10E-11	-3.71E-9	3.02E-9
AP	mol H+ eq	4.60E-4	2.57E-6	1.47E-6	4.64E-4	5.28E-6	3.41E-5	2.62E-7	-1.89E-4	3.15E-4
EP-fw	kg P eq	2.59E-6	3.71E-9	8.24E-9	2.60E-6	7.62E-9	1.62E-7	3.46E-10	-1.17E-6	1.60E-6
EP-m	kg N eq	8.34E-5	9.19E-7	1.55E-7	8.45E-5	1.89E-6	1.04E-5	1.69E-7	-3.92E-5	5.78E-5
EP-T	mol N eq	9.36E-4	1.01E-5	1.85E-6	9.48E-4	2.08E-5	1.15E-4	1.06E-6	-4.44E-4	6.40E-4
POCP	kg NMVOC eq	3.81E-4	2.90E-6	6.28E-7	3.84E-4	5.95E-6	3.56E-5	3.99E-7	-1.78E-4	2.48E-4
ADP-mm	kg Sb eq	4.38E-6	1.17E-8	1.97E-8	4.42E-6	2.40E-8	1.31E-7	2.66E-10	-4.42E-7	4.13E-6
ADP-f	MJ	3.15E+0	6.92E-3	1.36E-3	3.16E+0	1.42E-2	1.00E-1	8.01E-4	-1.58E+0	1.69E+0
WDP	m3 depriv.	6.67E-2	2.12E-5	5.22E-5	6.67E-2	4.36E-5	1.85E-3	4.62E-6	-3.24E-2	3.63E-2
PM	disease inc.	4.78E-9	4.07E-11	9.08E-12	4.83E-9	8.36E-11	5.43E-10	5.51E-12	-2.30E-9	3.17E-9
IR	kBq U-235 eq	2.89E-3	3.03E-5	1.02E-6	2.92E-3	6.22E-5	3.16E-4	3.70E-6	-1.25E-3	2.05E-3
ETP-fw	CTUe	1.75E+0	5.62E-3	1.21E-2	1.76E+0	1.15E-2	1.17E-1	6.70E-4	-6.88E-1	1.20E+0
HTP-c	CTUh	6.82E-11	2.00E-13	6.17E-13	6.91E-11	4.11E-13	1.51E-11	2.00E-14	-2.79E-11	5.67E-11
HTP-nc	CTUh	1.33E-9	6.70E-12	1.57E-11	1.36E-9	1.38E-11	1.75E-10	4.34E-13	-4.02E-10	1.14E-9
SQP	Pt	4.51E+0	5.92E-3	2.24E-3	4.52E+0	1.22E-2	7.91E-2	2.05E-3	-4.20E+0	4.20E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.26E+0	9.93E-5	2.40E-2	1.28E+0	2.04E-4	4.78E-3	3.07E-5	-6.63E-1	6.22E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.26E+0	9.93E-5	2.40E-2	1.28E+0	2.04E-4	4.78E-3	3.07E-5	-6.63E-1	6.22E-1
PENRE	MJ	3.38E+0	7.35E-3	1.44E-3	3.38E+0	1.51E-2	1.07E-1	8.50E-4	-1.71E+0	1.80E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.38E+0	7.35E-3	1.44E-3	3.38E+0	1.51E-2	1.07E-1	8.50E-4	-1.71E+0	1.80E+0
PET	MJ	4.63E+0	7.45E-3	2.55E-2	4.66E+0	1.53E-2	1.12E-1	8.81E-4	-2.37E+0	2.42E+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	1.23E-3	7.83E-7	1.46E-6	1.23E-3	1.61E-6	5.74E-5	9.85E-7	-5.72E-4	7.21E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.03E-6	1.77E-8	2.73E-13	1.05E-6	3.64E-8	1.73E-7	9.70E-10	-7.74E-7	4.89E-7
NHWD	kg	8.31E-3	4.29E-4	1.05E-6	8.74E-3	8.82E-4	5.27E-3	3.52E-3	-3.43E-3	1.50E-2
RWD	kg	2.96E-6	4.71E-8	1.10E-13	3.01E-6	9.67E-8	4.07E-7	5.22E-9	-1.24E-6	2.28E-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