Environmental Profile

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

Ecochain v3.5.80

Product:	3043857 - Wafix PP Reducer WT 40x32 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	6.30E-2	5.88E-4	1.45E-4	6.37E-2	8.48E-4	9.42E-2	3.99E-4	-5.33E-2	1.06E-1
GWP-f	kg CO2 eq	1.12E-1	5.88E-4	1.46E-4	1.13E-1	8.48E-4	4.11E-2	3.99E-4	-6.02E-2	9.52E-2
GWP-b	kg CO2 eq	-4.95E-2	3.57E-7	-1.54E-6	-4.95E-2	5.15E-7	5.31E-2	3.47E-7	7.00E-3	1.06E-2
GWP-luluc	kg CO2 eq	1.30E-4	2.08E-7	1.49E-7	1.30E-4	3.00E-7	5.26E-6	6.97E-9	-8.71E-5	4.86E-5
ODP	kg CFC11 eq	6.24E-9	1.35E-10	8.26E-12	6.39E-9	1.95E-10	8.40E-10	1.00E-11	-4.35E-9	3.08E-9
AP	mol H+ eq	4.97E-4	3.35E-6	1.47E-6	5.02E-4	4.83E-6	3.51E-5	2.40E-7	-2.03E-4	3.39E-4
EP-fw	kg P eq	3.08E-6	4.84E-9	8.24E-9	3.09E-6	6.97E-9	1.56E-7	3.17E-10	-1.50E-6	1.76E-6
EP-m	kg N eq	9.44E-5	1.20E-6	1.55E-7	9.58E-5	1.73E-6	1.10E-5	1.54E-7	-4.31E-5	6.56E-5
EP-T	mol N eq	1.04E-3	1.32E-5	1.85E-6	1.06E-3	1.90E-5	1.22E-4	9.73E-7	-4.91E-4	7.09E-4
POCP	kg NMVOC eq	4.12E-4	3.77E-6	6.28E-7	4.16E-4	5.44E-6	3.74E-5	3.65E-7	-1.87E-4	2.72E-4
ADP-mm	kg Sb eq	4.34E-6	1.52E-8	1.97E-8	4.37E-6	2.19E-8	1.32E-7	2.43E-10	-4.48E-7	4.08E-6
ADP-f	MJ	3.22E+0	9.02E-3	1.36E-3	3.23E+0	1.30E-2	9.81E-2	7.33E-4	-1.59E+0	1.76E+0
WDP	m3 depriv.	7.04E-2	2.77E-5	5.22E-5	7.05E-2	3.99E-5	1.76E-3	4.31E-6	-3.65E-2	3.58E-2
PM	disease inc.	5.26E-9	5.31E-11	9.08E-12	5.33E-9	7.65E-11	5.49E-10	5.04E-12	-2.62E-9	3.33E-9
IR	kBq U-235 eq	3.22E-3	3.94E-5	1.02E-6	3.26E-3	5.69E-5	3.16E-4	3.39E-6	-1.47E-3	2.16E-3
ETP-fw	CTUe	2.31E+0	7.33E-3	1.21E-2	2.33E+0	1.06E-2	1.19E-1	6.13E-4	-9.93E-1	1.46E+0
HTP-c	CTUh	7.36E-11	2.61E-13	6.17E-13	7.44E-11	3.76E-13	1.56E-11	1.84E-14	-3.00E-11	6.04E-11
HTP-nc	CTUh	1.41E-9	8.74E-12	1.57E-11	1.44E-9	1.26E-11	1.77E-10	3.98E-13	-4.20E-10	1.21E-9
SQP	Pt	4.71E+0	7.72E-3	2.24E-3	4.72E+0	1.11E-2	7.67E-2	1.88E-3	-4.92E+0	-1.08E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.19E+0	1.29E-4	2.40E-2	1.21E+0	1.87E-4	4.59E-3	2.80E-5	-7.93E-1	4.26E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.19E+0	1.29E-4	2.40E-2	1.21E+0	1.87E-4	4.59E-3	2.80E-5	-7.93E-1	4.26E-1
PENRE	MJ	3.46E+0	9.58E-3	1.44E-3	3.47E+0	1.38E-2	1.04E-1	7.78E-4	-1.71E+0	1.87E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.46E+0	9.58E-3	1.44E-3	3.47E+0	1.38E-2	1.04E-1	7.78E-4	-1.71E+0	1.87E+0
PET	MJ	4.65E+0	9.71E-3	2.55E-2	4.68E+0	1.40E-2	1.09E-1	8.06E-4	-2.51E+0	2.30E+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	1.37E-3	1.02E-6	1.46E-6	1.38E-3	1.47E-6	5.63E-5	9.01E-7	-6.99E-4	7.36E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.17E-6	2.31E-8	2.73E-13	1.19E-6	3.33E-8	1.76E-7	8.89E-10	-9.20E-7	4.80E-7
NHWD	kg	9.68E-3	5.59E-4	1.05E-6	1.02E-2	8.06E-4	5.45E-3	3.22E-3	-3.74E-3	1.60E-2
RWD	kg	3.27E-6	6.14E-8	1.10E-13	3.34E-6	8.85E-8	4.11E-7	4.78E-9	-1.46E-6	2.38E-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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