

# Environmental Profile

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

Ecochain v3.5.64



Product: 3061973 - Wafix PP Pipe GY 32 L=0,5 S/CH  
 Unit: 1 piece  
 Manufacturer: Wavin - SE - Eskilstuna

LCA standard: EN15804+A2 (2019)  
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off  
 Externally verified: Yes  
 Issue date: 20-06-2022  
 End of validity: 20-06-2027  
 Verifier: Harry van Ewijk - SGS Search



Wafix PP is a versatile, uncomplicated solution for your indoor drain. You can install the impact-resistant pipes even in frost. Their excellent chemical resistance makes them ideal for embedment applications.

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 - SE - Eskilstuna (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 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.29E-1	8.64E-3	6.23E-3	2.44E-1	2.71E-3	7.85E-2	1.28E-3	-1.26E-1	2.01E-1
GWP-f	kg CO2 eq	2.28E-1	8.64E-3	4.51E-3	2.42E-1	2.70E-3	7.86E-2	1.28E-3	-1.25E-1	1.99E-1
GWP-b	kg CO2 eq	1.07E-3	2.62E-6	1.19E-3	2.26E-3	1.64E-6	-1.08E-4	1.11E-6	-4.39E-4	1.71E-3
GWP-luluc	kg CO2 eq	6.61E-5	3.67E-6	5.25E-4	5.95E-4	9.57E-7	1.52E-5	2.17E-8	-2.43E-5	5.87E-4
ODP	kg CFC11 eq	6.42E-9	1.87E-9	5.11E-10	8.80E-9	6.23E-10	1.97E-9	3.20E-11	-4.62E-9	6.81E-9
AP	mol H+ eq	8.59E-4	1.04E-4	3.82E-5	1.00E-3	1.54E-5	8.29E-5	7.62E-7	-3.52E-4	7.48E-4
EP-fw	kg P eq	3.59E-6	7.46E-8	8.33E-8	3.75E-6	2.23E-8	4.38E-7	9.93E-10	-1.38E-6	2.83E-6
EP-m	kg N eq	1.42E-4	2.99E-5	1.13E-5	1.83E-4	5.51E-6	2.41E-5	4.97E-7	-6.22E-5	1.51E-4
EP-T	mol N eq	1.62E-3	3.31E-4	1.24E-4	2.07E-3	6.07E-5	2.65E-4	3.10E-6	-6.89E-4	1.71E-3
POCP	kg NMVOC eq	7.20E-4	8.94E-5	3.45E-5	8.44E-4	1.74E-5	8.39E-5	1.16E-6	-3.18E-4	6.29E-4
ADP-mm	kg Sb eq	6.00E-6	1.82E-7	1.36E-7	6.32E-6	7.00E-8	3.29E-7	7.68E-10	-8.31E-7	5.89E-6
ADP-f	MJ	7.91E+0	1.26E-1	4.49E-2	8.08E+0	4.15E-2	2.63E-1	2.33E-3	-3.96E+0	4.44E+0
WDP	m3 depriv.	1.60E-1	3.92E-4	2.89E-2	1.89E-1	1.27E-4	5.17E-3	1.16E-5	-6.85E-2	1.26E-1
PM	disease inc.	7.64E-9	6.57E-10	6.45E-10	8.94E-9	2.44E-10	1.37E-9	1.60E-11	-2.95E-9	7.62E-9
IR	kBq U-235 eq	4.77E-3	5.29E-4	1.33E-4	5.43E-3	1.81E-4	7.93E-4	1.08E-5	-1.84E-3	4.58E-3
ETP-fw	CTUe	1.49E+0	1.05E-1	1.25E-1	1.72E+0	3.37E-2	2.97E-1	1.95E-3	-4.88E-1	1.56E+0
HTP-c	CTUh	6.07E-11	3.95E-12	4.94E-12	6.96E-11	1.20E-12	3.58E-11	5.69E-14	-2.09E-11	8.58E-11
HTP-nc	CTUh	1.68E-9	1.10E-10	1.35E-10	1.92E-9	4.02E-11	4.42E-10	1.26E-12	-5.92E-10	1.81E-9
SQP	Pt	3.60E-1	9.03E-2	5.90E-3	4.56E-1	3.55E-2	2.10E-1	5.99E-3	-1.06E-1	6.02E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.43E-1	1.41E-3	2.83E-1	5.27E-1	5.96E-4	1.30E-2	9.05E-5	-4.91E-2	4.92E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.43E-1	1.41E-3	2.83E-1	5.27E-1	5.96E-4	1.30E-2	9.05E-5	-4.91E-2	4.92E-1
PENRE	MJ	8.49E+0	1.33E-1	4.76E-2	8.67E+0	4.41E-2	2.81E-1	2.48E-3	-4.26E+0	4.74E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.49E+0	1.33E-1	4.76E-2	8.67E+0	4.41E-2	2.81E-1	2.48E-3	-4.26E+0	4.74E+0
PET	MJ	8.73E+0	1.35E-1	3.31E-1	9.20E+0	4.47E-2	2.94E-1	2.57E-3	-4.31E+0	5.23E+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	2.49E-3	1.34E-5	6.87E-4	3.19E-3	4.70E-6	1.52E-4	2.88E-6	-1.03E-3	2.33E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.21E-6	2.77E-7	6.83E-8	1.55E-6	1.06E-7	4.28E-7	2.81E-9	-9.08E-7	1.18E-6
NHWD	kg	1.17E-2	6.41E-3	2.09E-4	1.83E-2	2.57E-3	1.29E-2	1.03E-2	-3.04E-3	4.11E-2
RWD	kg	4.48E-6	8.36E-7	1.90E-7	5.51E-6	2.82E-7	1.01E-6	1.52E-8	-1.65E-6	5.16E-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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