Environmental Profile

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

Ecochain v3.5.80

Product:	3020713 - Wafix PP Adaptor BK 110
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	3.65E-1	2.85E-3	1.45E-4	3.68E-1	5.14E-3	3.43E-1	2.46E-3	-2.65E-1	4.53E-1
GWP-f	kg CO2 eq	5.12E-1	2.85E-3	1.46E-4	5.15E-1	5.14E-3	1.85E-1	2.46E-3	-2.82E-1	4.25E-1
GWP-b	kg CO2 eq	-1.47E-1	1.73E-6	-1.54E-6	-1.47E-1	3.12E-6	1.58E-1	2.16E-6	1.71E-2	2.78E-2
GWP-luluc	kg CO2 eq	4.07E-4	1.01E-6	1.49E-7	4.08E-4	1.82E-6	2.96E-5	4.21E-8	-2.58E-4	1.81E-4
ODP	kg CFC11 eq	3.14E-8	6.57E-10	8.26E-12	3.21E-8	1.18E-9	4.26E-9	6.20E-11	-1.55E-8	2.21E-8
AP	mol H+ eq	2.13E-3	1.62E-5	1.47E-6	2.15E-3	2.93E-5	1.78E-4	1.48E-6	-9.08E-4	1.45E-3
EP-fw	kg P eq	1.16E-5	2.35E-8	8.24E-9	1.16E-5	4.23E-8	8.65E-7	1.93E-9	-5.43E-6	7.07E-6
EP-m	kg N eq	3.82E-4	5.81E-6	1.55E-7	3.88E-4	1.05E-5	5.38E-5	1.05E-6	-1.80E-4	2.74E-4
EP-T	mol N eq	4.24E-3	6.40E-5	1.85E-6	4.30E-3	1.15E-4	5.92E-4	6.01E-6	-2.03E-3	2.99E-3
POCP	kg NMVOC eq	1.79E-3	1.83E-5	6.28E-7	1.81E-3	3.30E-5	1.84E-4	2.25E-6	-8.34E-4	1.20E-3
ADP-mm	kg Sb eq	2.84E-5	7.38E-8	1.97E-8	2.85E-5	1.33E-7	6.89E-7	1.49E-9	-2.35E-6	2.70E-5
ADP-f	MJ	1.62E+1	4.38E-2	1.36E-3	1.62E+1	7.88E-2	5.31E-1	4.53E-3	-8.17E+0	8.68E+0
WDP	m3 depriv.	3.23E-1	1.34E-4	5.22E-5	3.23E-1	2.42E-4	1.02E-2	2.26E-5	-1.66E-1	1.68E-1
PM	disease inc.	2.24E-8	2.57E-10	9.08E-12	2.27E-8	4.64E-10	2.84E-9	3.11E-11	-1.03E-8	1.58E-8
IR	kBq U-235 eq	1.56E-2	1.91E-4	1.02E-6	1.58E-2	3.45E-4	1.65E-3	2.10E-5	-5.83E-3	1.19E-2
ETP-fw	CTUe	7.81E+0	3.55E-2	1.21E-2	7.86E+0	6.40E-2	6.51E-1	4.04E-3	-3.16E+0	5.42E+0
HTP-c	CTUh	2.84E-10	1.26E-12	6.17E-13	2.85E-10	2.28E-12	7.42E-11	1.11E-13	-1.06E-10	2.56E-10
HTP-nc	CTUh	5.83E-9	4.24E-11	1.57E-11	5.89E-9	7.63E-11	9.12E-10	2.50E-12	-1.66E-9	5.22E-9
SQP	Pt	1.43E+1	3.74E-2	2.24E-3	1.43E+1	6.74E-2	4.19E-1	1.16E-2	-1.42E+1	6.20E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.43E+0	6.28E-4	2.40E-2	4.46E+0	1.13E-3	2.56E-2	1.77E-4	-2.31E+0	2.17E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.43E+0	6.28E-4	2.40E-2	4.46E+0	1.13E-3	2.56E-2	1.77E-4	-2.31E+0	2.17E+0
PENRE	MJ	1.74E+1	4.65E-2	1.44E-3	1.74E+1	8.37E-2	5.66E-1	4.80E-3	-8.81E+0	9.26E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.74E+1	4.65E-2	1.44E-3	1.74E+1	8.37E-2	5.66E-1	4.80E-3	-8.81E+0	9.26E+0
PET	MJ	2.18E+1	4.71E-2	2.55E-2	2.19E+1	8.48E-2	5.91E-1	4.98E-3	-1.11E+1	1.14E+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	5.72E-3	4.95E-6	1.46E-6	5.73E-3	8.92E-6	3.29E-4	5.59E-6	-2.89E-3	3.18E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.52E-6	1.12E-7	2.73E-13	4.64E-6	2.02E-7	9.13E-7	5.45E-9	-3.34E-6	2.41E-6
NHWD	kg	3.47E-2	2.71E-3	1.05E-6	3.74E-2	4.89E-3	2.70E-2	1.99E-2	-1.37E-2	7.56E-2
RWD	kg	1.71E-5	2.98E-7	1.10E-13	1.74E-5	5.36E-7	2.12E-6	2.96E-8	-5.67E-6	1.44E-5
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