

Environmental Profile

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

Ecochain v3.5.80



Product: 3001298 - Wafix PVC Bend 45° GY 110 SN8 S/S
Unit: 1 piece
Manufacturer: Wavin - NL - Hardenberg - Verified
Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

LCA standard: NMD Bepalingsmethode 1.1 (2022)
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



Wavin carries a complete PVC range of outdoor sewers. With PVC as a material, a smooth-walled, flexible and completely watertight piping system is obtained. Moreover, PVC is absolutely resistant to all substances that occur in domestic waste water. By working with a light material, large pipe lengths and plug connections, a very fast installation is guaranteed.

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 - NL - Hardenberg - Verified (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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage												Benefits and loads beyond the system boundaries				
A4 Transport gate to site A5 Assembly / Construction installation process												D Reuse- Recovery- Recycling- potential				

Environmental impacts and parameters

ECI = Environmental Costs Indicator [euro]; **ADPE** = Abiotic depletion potential for non-fossil resources [kg Sb-eq]; **ADPF** = Abiotic depletion potential for fossil resources [kg Sb-eq]; **GWP** = Global warming potential [kg CO2-eq]; **ODP** = Depletion potential of the stratospheric ozone layer [kg CFC-11-eq]; **POCP** = Formation potential of tropospheric ozone photochemical oxidants [kg ethene-eq]; **AP** = Acidification potential of land and water [kg SO2-eq]; **EP** = Eutrophication potential [kg PO4 3--eq]; **HTP** = Human toxicity potential [kg 1,4-DB-eq]; **FAETP** = Freshwater aquatic ecotoxicity potential [kg 1,4-DB-eq]; **MAETP** = Marine aquatic ecotoxicity potential [kg 1,4-DB-eq]; **TETP** = Terrestrial ecotoxicity potential [kg 1,4-DB-eq]; **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]

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Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.07	0	0	0.08	0	0.02	0	-0.04	0.07
ADPE	kg Sb-eq	5.70E-4	2.49E-7	9.45E-7	5.71E-4	2.21E-7	1.84E-6	2.46E-9	-7.11E-6	5.66E-4
ADPF	kg Sb-eq	8.54E-3	7.17E-5	1.62E-4	8.77E-3	6.21E-5	6.42E-4	3.41E-6	-4.55E-3	4.93E-3
GWP	kg CO2-eq	6.69E-1	9.76E-3	3.08E-2	7.09E-1	8.46E-3	2.41E-1	2.51E-3	-3.76E-1	5.85E-1
ODP	kg CFC-11-eq	3.17E-7	1.73E-9	2.44E-9	3.21E-7	1.57E-9	2.47E-8	8.14E-11	-1.67E-7	1.80E-7
POCP	kg ethene-eq	4.38E-4	5.89E-6	1.34E-5	4.57E-4	5.08E-6	5.24E-5	6.33E-7	-2.03E-4	3.13E-4
AP	kg SO2-eq	2.65E-3	4.29E-5	1.32E-4	2.83E-3	3.64E-5	3.70E-4	1.83E-6	-1.25E-3	1.99E-3
EP	kg PO4 3--eq	3.34E-4	8.43E-6	1.70E-5	3.59E-4	7.27E-6	5.73E-5	8.23E-7	-1.67E-4	2.58E-4
HTP	kg 1,4-DB-eq	2.46E-1	4.11E-3	1.43E-2	2.64E-1	3.62E-3	1.01E-1	2.02E-4	-1.13E-1	2.56E-1
FAETP	kg 1,4-DB-eq	7.39E-3	1.20E-4	4.89E-4	7.99E-3	1.06E-4	1.59E-3	8.77E-5	-3.25E-3	6.53E-3
MAETP	kg 1,4-DB-eq	1.74E+1	4.31E-1	1.93E+0	1.98E+1	3.79E-1	5.20E+0	9.90E-2	-7.32E+0	1.82E+1
TETP	kg 1,4-DB-eq	1.71E-3	1.45E-5	1.06E-3	2.79E-3	1.28E-5	3.54E-4	6.25E-7	-1.07E-3	2.08E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.91E-1	9.85E-3	3.53E-2	7.36E-1	8.54E-3	2.58E-1	2.93E-3	-3.53E-1	6.52E-1
GWP-f	kg CO2 eq	6.85E-1	9.84E-3	2.71E-2	7.22E-1	8.53E-3	2.43E-1	2.93E-3	-3.85E-1	5.91E-1
GWP-b	kg CO2 eq	5.11E-3	4.54E-6	5.59E-3	1.07E-2	5.18E-6	1.50E-2	3.45E-6	3.25E-2	5.83E-2
GWP-luluc	kg CO2 eq	7.23E-4	3.61E-6	2.57E-3	3.30E-3	3.02E-6	9.69E-5	7.07E-8	-4.60E-4	2.94E-3
ODP	kg CFC11 eq	3.15E-7	2.17E-9	2.86E-9	3.20E-7	1.97E-9	2.56E-8	1.01E-10	-1.66E-7	1.82E-7
AP	mol H+ eq	3.22E-3	5.71E-5	1.65E-4	3.45E-3	4.86E-5	4.65E-4	2.45E-6	-1.51E-3	2.45E-3
EP-fw	kg P eq	3.02E-5	9.92E-8	4.74E-7	3.08E-5	7.02E-8	3.21E-6	3.21E-9	-1.54E-5	1.87E-5
EP-m	kg N eq	5.70E-4	2.01E-5	3.90E-5	6.29E-4	1.74E-5	1.16E-4	1.73E-6	-2.71E-4	4.94E-4
EP-T	mol N eq	6.17E-3	2.22E-4	4.30E-4	6.83E-3	1.92E-4	1.28E-3	9.81E-6	-2.92E-3	5.38E-3
POCP	kg NMVOC eq	2.12E-3	6.33E-5	1.22E-4	2.31E-3	5.48E-5	3.86E-4	3.42E-6	-1.00E-3	1.75E-3
ADP-mm	kg Sb eq	5.70E-4	2.49E-7	9.45E-7	5.71E-4	2.21E-7	1.84E-6	2.46E-9	-7.11E-6	5.66E-4
ADP-f	MJ	1.82E+1	1.48E-1	3.03E-1	1.86E+1	1.31E-1	1.28E+0	7.38E-3	-9.57E+0	1.05E+1
WDP	m3 depriv.	9.99E-1	5.31E-4	2.34E-1	1.23E+0	4.02E-4	4.74E-2	4.54E-5	-5.38E-1	7.44E-1
PM	disease inc.	2.41E-8	8.84E-10	2.04E-9	2.70E-8	7.70E-10	5.95E-9	5.08E-11	-1.21E-8	2.17E-8
IR	kBq U-235 eq	3.86E-2	6.22E-4	4.81E-4	3.97E-2	5.72E-4	4.45E-3	3.41E-5	-1.77E-2	2.70E-2
ETP-fw	CTUe	1.92E+1	1.32E-1	7.03E-1	2.01E+1	1.06E-1	8.90E+0	9.77E-2	-7.27E+0	2.19E+1
HTP-c	CTUh	5.04E-10	4.29E-12	2.43E-11	5.33E-10	3.78E-12	1.44E-10	2.00E-13	-1.98E-10	4.83E-10
HTP-nc	CTUh	1.63E-8	1.45E-10	7.60E-10	1.72E-8	1.27E-10	3.27E-9	1.93E-11	-6.78E-9	1.39E-8
SQP	Pt	3.59E+0	1.29E-1	2.26E-2	3.74E+0	1.12E-1	8.06E-1	1.89E-2	-7.13E+0	-2.45E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.08E+0	1.86E-3	1.47E+0	2.56E+0	1.88E-3	8.85E-2	2.81E-4	-1.49E+0	1.16E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.08E+0	1.86E-3	1.47E+0	2.56E+0	1.88E-3	8.85E-2	2.81E-4	-1.49E+0	1.16E+0
PENRE	MJ	1.95E+1	1.58E-1	3.27E-1	2.00E+1	1.39E-1	1.36E+0	7.83E-3	-1.03E+1	1.12E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.95E+1	1.58E-1	3.27E-1	2.00E+1	1.39E-1	1.36E+0	7.83E-3	-1.03E+1	1.12E+1
PET	MJ	2.06E+1	1.59E-1	1.80E+0	2.25E+1	1.41E-1	1.45E+0	8.11E-3	-1.18E+1	1.23E+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	1.21E-2	1.81E-5	5.54E-3	1.76E-2	1.48E-5	1.32E-3	9.06E-6	-6.52E-3	1.24E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.00E-5	3.76E-7	3.22E-7	8.07E-5	3.35E-7	2.10E-6	8.96E-9	-7.21E-6	7.59E-5
NHWD	kg	6.52E-2	9.41E-3	4.97E-4	7.51E-2	8.11E-3	4.82E-2	3.24E-2	-2.85E-2	1.35E-1
RWD	kg	3.59E-5	9.74E-7	5.96E-7	3.75E-5	8.90E-7	4.86E-6	4.81E-8	-1.58E-5	2.75E-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



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