

Environmental Profile

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

Ecochain v3.5.80



Product: 3001281 - Wafix PVC Bend 15° GY 125 SN4 S/SP
 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

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

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	0.08	0	0	0.08	0	0.03	0	-0.04	0.07
ADPE	kg Sb-eq	6.38E-4	2.58E-7	1.07E-6	6.40E-4	2.33E-7	2.00E-6	2.60E-9	-7.71E-6	6.34E-4
ADPF	kg Sb-eq	8.77E-3	7.41E-5	1.84E-4	9.02E-3	6.56E-5	6.95E-4	3.60E-6	-4.71E-3	5.07E-3
GWP	kg CO2-eq	7.02E-1	1.01E-2	3.50E-2	7.47E-1	8.93E-3	2.52E-1	2.58E-3	-3.94E-1	6.17E-1
ODP	kg CFC-11-eq	3.54E-7	1.79E-9	2.77E-9	3.59E-7	1.66E-9	2.76E-8	8.59E-11	-1.84E-7	2.04E-7
POCP	kg ethene-eq	4.41E-4	6.08E-6	1.52E-5	4.62E-4	5.36E-6	5.60E-5	6.57E-7	-2.10E-4	3.15E-4
AP	kg SO2-eq	2.80E-3	4.43E-5	1.50E-4	2.99E-3	3.84E-5	4.02E-4	1.94E-6	-1.32E-3	2.11E-3
EP	kg PO4 3--eq	3.54E-4	8.71E-6	1.93E-5	3.82E-4	7.67E-6	6.17E-5	8.36E-7	-1.76E-4	2.76E-4
HTP	kg 1,4-DB-eq	2.64E-1	4.24E-3	1.63E-2	2.84E-1	3.82E-3	1.08E-1	2.10E-4	-1.22E-1	2.75E-1
FAETP	kg 1,4-DB-eq	7.91E-3	1.24E-4	5.55E-4	8.59E-3	1.12E-4	1.68E-3	8.20E-5	-3.45E-3	7.01E-3
MAETP	kg 1,4-DB-eq	1.87E+1	4.46E-1	2.19E+0	2.13E+1	4.00E-1	5.58E+0	9.46E-2	-7.89E+0	1.95E+1
TETP	kg 1,4-DB-eq	1.87E-3	1.50E-5	1.21E-3	3.10E-3	1.35E-5	3.80E-4	6.69E-7	-1.14E-3	2.35E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.25E-1	1.02E-2	4.01E-2	7.75E-1	9.01E-3	2.69E-1	3.01E-3	-3.71E-1	6.85E-1
GWP-f	kg CO2 eq	7.18E-1	1.02E-2	3.08E-2	7.59E-1	9.00E-3	2.54E-1	3.01E-3	-4.03E-1	6.22E-1
GWP-b	kg CO2 eq	5.92E-3	4.69E-6	6.35E-3	1.23E-2	5.47E-6	1.50E-2	3.63E-6	3.24E-2	5.96E-2
GWP-luluc	kg CO2 eq	7.70E-4	3.73E-6	2.92E-3	3.70E-3	3.19E-6	1.06E-4	7.48E-8	-4.79E-4	3.33E-3
ODP	kg CFC11 eq	3.51E-7	2.24E-9	3.25E-9	3.57E-7	2.07E-9	2.86E-8	1.07E-10	-1.82E-7	2.05E-7
AP	mol H+ eq	3.40E-3	5.90E-5	1.88E-4	3.65E-3	5.13E-5	5.05E-4	2.59E-6	-1.60E-3	2.61E-3
EP-fw	kg P eq	3.27E-5	1.03E-7	5.39E-7	3.34E-5	7.41E-8	3.53E-6	3.39E-9	-1.65E-5	2.05E-5
EP-m	kg N eq	6.02E-4	2.08E-5	4.43E-5	6.67E-4	1.83E-5	1.25E-4	1.76E-6	-2.85E-4	5.27E-4
EP-T	mol N eq	6.52E-3	2.29E-4	4.89E-4	7.24E-3	2.02E-4	1.38E-3	1.03E-5	-3.08E-3	5.75E-3
POCP	kg NMVOC eq	2.19E-3	6.54E-5	1.39E-4	2.39E-3	5.78E-5	4.14E-4	3.60E-6	-1.05E-3	1.82E-3
ADP-mm	kg Sb eq	6.38E-4	2.58E-7	1.07E-6	6.40E-4	2.33E-7	2.00E-6	2.60E-9	-7.71E-6	6.34E-4
ADP-f	MJ	1.87E+1	1.53E-1	3.44E-1	1.92E+1	1.38E-1	1.38E+0	7.79E-3	-9.92E+0	1.08E+1
WDP	m3 depriv.	1.09E+0	5.48E-4	2.66E-1	1.36E+0	4.24E-4	5.25E-2	4.88E-5	-5.80E-1	8.35E-1
PM	disease inc.	2.46E-8	9.13E-10	2.32E-9	2.78E-8	8.13E-10	6.38E-9	5.36E-11	-1.25E-8	2.25E-8
IR	kBq U-235 eq	4.08E-2	6.42E-4	5.47E-4	4.20E-2	6.04E-4	4.83E-3	3.59E-5	-1.91E-2	2.83E-2
ETP-fw	CTUe	2.07E+1	1.37E-1	7.99E-1	2.16E+1	1.12E-1	1.00E+1	1.10E-1	-7.69E+0	2.42E+1
HTP-c	CTUh	5.52E-10	4.43E-12	2.77E-11	5.84E-10	3.99E-12	1.55E-10	2.13E-13	-2.13E-10	5.30E-10
HTP-nc	CTUh	1.80E-8	1.50E-10	8.64E-10	1.90E-8	1.34E-10	3.60E-9	2.15E-11	-7.34E-9	1.54E-8
SQP	Pt	3.72E+0	1.33E-1	2.57E-2	3.88E+0	1.18E-1	8.60E-1	1.99E-2	-7.20E+0	-2.32E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.15E+0	1.92E-3	1.67E+0	2.82E+0	1.98E-3	9.71E-2	2.95E-4	-1.52E+0	1.40E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.15E+0	1.92E-3	1.67E+0	2.82E+0	1.98E-3	9.71E-2	2.95E-4	-1.52E+0	1.40E+0
PENRE	MJ	2.00E+1	1.63E-1	3.72E-1	2.05E+1	1.47E-1	1.47E+0	8.26E-3	-1.07E+1	1.15E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.00E+1	1.63E-1	3.72E-1	2.05E+1	1.47E-1	1.47E+0	8.26E-3	-1.07E+1	1.15E+1
PET	MJ	2.12E+1	1.65E-1	2.04E+0	2.34E+1	1.49E-1	1.56E+0	8.56E-3	-1.22E+1	1.29E+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	1.29E-2	1.87E-5	6.29E-3	1.92E-2	1.56E-5	1.45E-3	9.56E-6	-6.91E-3	1.37E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.03E-5	3.89E-7	3.65E-7	9.11E-5	3.53E-7	2.26E-6	9.47E-9	-7.78E-6	8.59E-5
NHWD	kg	7.06E-2	9.73E-3	5.64E-4	8.09E-2	8.56E-3	5.12E-2	3.42E-2	-3.08E-2	1.44E-1
RWD	kg	3.72E-5	1.01E-6	6.77E-7	3.89E-5	9.40E-7	5.24E-6	5.07E-8	-1.70E-5	2.81E-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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