

Environmental Profile

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

Ecochain v3.5.80



Product: 3001331 - Wafix PVC Branch 45° GY 125 SN4 S/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	0.21	0	0.01	0.22	0	0.07	0	-0.1	0.18
ADPE	kg Sb-eq	1.65E-3	6.86E-7	2.49E-6	1.66E-3	6.13E-7	5.24E-6	6.83E-9	-2.02E-5	1.64E-3
ADPF	kg Sb-eq	2.33E-2	1.97E-4	4.27E-4	2.39E-2	1.73E-4	1.82E-3	9.47E-6	-1.25E-2	1.34E-2
GWP	kg CO2-eq	1.86E+0	2.68E-2	8.11E-2	1.96E+0	2.35E-2	6.67E-1	6.84E-3	-1.04E+0	1.62E+0
ODP	kg CFC-11-eq	9.19E-7	4.76E-9	6.41E-9	9.30E-7	4.36E-9	7.17E-8	2.26E-10	-4.80E-7	5.26E-7
POCP	kg ethene-eq	1.18E-3	1.62E-5	3.52E-5	1.23E-3	1.41E-5	1.47E-4	1.74E-6	-5.57E-4	8.37E-4
AP	kg SO2-eq	7.39E-3	1.18E-4	3.49E-4	7.85E-3	1.01E-4	1.05E-3	5.09E-6	-3.49E-3	5.52E-3
EP	kg PO4 3--eq	9.38E-4	2.32E-5	4.48E-5	1.01E-3	2.02E-5	1.62E-4	2.23E-6	-4.72E-4	7.19E-4
HTP	kg 1,4-DB-eq	6.93E-1	1.13E-2	3.77E-2	7.42E-1	1.01E-2	2.84E-1	5.55E-4	-3.22E-1	7.15E-1
FAETP	kg 1,4-DB-eq	2.10E-2	3.30E-4	1.29E-3	2.26E-2	2.94E-4	4.42E-3	2.23E-4	-9.27E-3	1.83E-2
MAETP	kg 1,4-DB-eq	4.92E+1	1.19E+0	5.07E+0	5.55E+1	1.05E+0	1.47E+1	2.56E-1	-2.08E+1	5.07E+1
TETP	kg 1,4-DB-eq	4.90E-3	3.99E-5	2.80E-3	7.74E-3	3.56E-5	9.97E-4	1.75E-6	-3.07E-3	5.70E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.92E+0	2.71E-2	9.28E-2	2.04E+0	2.37E-2	7.15E-1	7.99E-3	-9.74E-1	1.81E+0
GWP-f	kg CO2 eq	1.90E+0	2.71E-2	7.13E-2	2.00E+0	2.37E-2	6.71E-1	7.99E-3	-1.07E+0	1.63E+0
GWP-b	kg CO2 eq	1.53E-2	1.25E-5	1.47E-2	3.00E-2	1.44E-5	4.33E-2	9.57E-6	9.39E-2	1.67E-1
GWP-luluc	kg CO2 eq	2.06E-3	9.91E-6	6.77E-3	8.84E-3	8.38E-6	2.77E-4	1.97E-7	-1.32E-3	7.81E-3
ODP	kg CFC11 eq	9.11E-7	5.97E-9	7.54E-9	9.25E-7	5.46E-9	7.42E-8	2.80E-10	-4.75E-7	5.30E-7
AP	mol H+ eq	8.98E-3	1.57E-4	4.35E-4	9.57E-3	1.35E-4	1.32E-3	6.82E-6	-4.23E-3	6.81E-3
EP-fw	kg P eq	8.60E-5	2.73E-7	1.25E-6	8.75E-5	1.95E-7	9.19E-6	8.92E-9	-4.38E-5	5.31E-5
EP-m	kg N eq	1.60E-3	5.53E-5	1.03E-4	1.75E-3	4.83E-5	3.29E-4	4.69E-6	-7.60E-4	1.38E-3
EP-T	mol N eq	1.73E-2	6.10E-4	1.13E-3	1.90E-2	5.32E-4	3.63E-3	2.72E-5	-8.20E-3	1.50E-2
POCP	kg NMVOC eq	5.82E-3	1.74E-4	3.22E-4	6.32E-3	1.52E-4	1.09E-3	9.48E-6	-2.78E-3	4.79E-3
ADP-mm	kg Sb eq	1.65E-3	6.86E-7	2.49E-6	1.66E-3	6.13E-7	5.24E-6	6.83E-9	-2.02E-5	1.64E-3
ADP-f	MJ	4.96E+1	4.08E-1	7.97E-1	5.08E+1	3.64E-1	3.61E+0	2.05E-2	-2.63E+1	2.85E+1
WDP	m3 depriv.	2.85E+0	1.46E-3	6.17E-1	3.47E+0	1.12E-3	1.36E-1	1.28E-4	-1.53E+0	2.08E+0
PM	disease inc.	6.58E-8	2.43E-9	5.37E-9	7.36E-8	2.14E-9	1.68E-8	1.41E-10	-3.38E-8	5.88E-8
IR	kBq U-235 eq	1.08E-1	1.71E-3	1.27E-3	1.11E-1	1.59E-3	1.26E-2	9.45E-5	-5.05E-2	7.46E-2
ETP-fw	CTUe	5.50E+1	3.64E-1	1.85E+0	5.72E+1	2.95E-1	2.59E+1	2.85E-1	-2.08E+1	6.30E+1
HTP-c	CTUh	1.44E-9	1.18E-11	6.41E-11	1.52E-9	1.05E-11	4.06E-10	5.59E-13	-5.62E-10	1.37E-9
HTP-nc	CTUh	4.69E-8	3.98E-10	2.00E-9	4.93E-8	3.52E-10	9.38E-9	5.58E-11	-1.93E-8	3.97E-8
SQP	Pt	1.01E+1	3.54E-1	5.96E-2	1.05E+1	3.11E-1	2.26E+0	5.25E-2	-2.05E+1	-7.33E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.08E+0	5.11E-3	3.88E+0	6.96E+0	5.22E-3	2.53E-1	7.77E-4	-4.28E+0	2.94E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.08E+0	5.11E-3	3.88E+0	6.96E+0	5.22E-3	2.53E-1	7.77E-4	-4.28E+0	2.94E+0
PENRE	MJ	5.32E+1	4.33E-1	8.62E-1	5.44E+1	3.86E-1	3.84E+0	2.18E-2	-2.83E+1	3.04E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.32E+1	4.33E-1	8.62E-1	5.44E+1	3.86E-1	3.84E+0	2.18E-2	-2.83E+1	3.04E+1
PET	MJ	5.62E+1	4.38E-1	4.74E+0	6.14E+1	3.91E-1	4.10E+0	2.25E-2	-3.26E+1	3.33E+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	3.39E-2	4.97E-5	1.46E-2	4.85E-2	4.12E-5	3.78E-3	2.52E-5	-1.84E-2	3.39E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.34E-4	1.03E-6	8.47E-7	2.35E-4	9.30E-7	5.93E-6	2.49E-8	-2.05E-5	2.22E-4
NHWD	kg	1.85E-1	2.59E-2	1.31E-3	2.12E-1	2.25E-2	1.35E-1	9.01E-2	-8.11E-2	3.79E-1
RWD	kg	9.89E-5	2.68E-6	1.57E-6	1.03E-4	2.47E-6	1.38E-5	1.33E-7	-4.50E-5	7.46E-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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