

Environmental Profile

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

Ecochain v3.5.80



Product: 3001319 - Wafix PVC Branch 88° GY 160 SN4 S/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					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	0.3	0	0.02	0.32	0	0.1	0	-0.15	0.27
ADPE	kg Sb-eq	2.52E-3	9.98E-7	4.18E-6	2.52E-3	9.03E-7	7.85E-6	1.01E-8	-3.02E-5	2.50E-3
ADPF	kg Sb-eq	3.37E-2	2.87E-4	7.19E-4	3.48E-2	2.54E-4	2.72E-3	1.40E-5	-1.82E-2	1.95E-2
GWP	kg CO2-eq	2.72E+0	3.90E-2	1.36E-1	2.90E+0	3.46E-2	9.77E-1	9.93E-3	-1.53E+0	2.39E+0
ODP	kg CFC-11-eq	1.40E-6	6.93E-9	1.08E-8	1.42E-6	6.42E-9	1.09E-7	3.33E-10	-7.22E-7	8.09E-7
POCP	kg ethene-eq	1.68E-3	2.36E-5	5.93E-5	1.77E-3	2.08E-5	2.19E-4	2.53E-6	-8.13E-4	1.20E-3
AP	kg SO2-eq	1.09E-2	1.72E-4	5.86E-4	1.16E-2	1.49E-4	1.58E-3	7.51E-6	-5.16E-3	8.19E-3
EP	kg PO4 3--eq	1.38E-3	3.37E-5	7.54E-5	1.49E-3	2.98E-5	2.42E-4	3.19E-6	-6.97E-4	1.07E-3
HTP	kg 1,4-DB-eq	1.03E+0	1.64E-2	6.34E-2	1.11E+0	1.48E-2	4.22E-1	8.10E-4	-4.79E-1	1.07E+0
FAETP	kg 1,4-DB-eq	3.12E-2	4.80E-4	2.16E-3	3.39E-2	4.34E-4	6.53E-3	3.07E-4	-1.37E-2	2.74E-2
MAETP	kg 1,4-DB-eq	7.29E+1	1.73E+0	8.53E+0	8.32E+1	1.55E+0	2.19E+1	3.57E-1	-3.10E+1	7.60E+1
TETP	kg 1,4-DB-eq	7.39E-3	5.81E-5	4.71E-3	1.22E-2	5.25E-5	1.49E-3	2.60E-6	-4.56E-3	9.14E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.82E+0	3.94E-2	1.56E-1	3.01E+0	3.49E-2	1.05E+0	1.16E-2	-1.43E+0	2.67E+0
GWP-f	kg CO2 eq	2.79E+0	3.94E-2	1.20E-1	2.95E+0	3.49E-2	9.84E-1	1.16E-2	-1.57E+0	2.41E+0
GWP-b	kg CO2 eq	2.40E-2	1.82E-5	2.48E-2	4.88E-2	2.12E-5	6.27E-2	1.41E-5	1.36E-1	2.47E-1
GWP-luluc	kg CO2 eq	3.06E-3	1.44E-5	1.14E-2	1.45E-2	1.24E-5	4.17E-4	2.90E-7	-1.94E-3	1.30E-2
ODP	kg CFC11 eq	1.38E-6	8.69E-9	1.27E-8	1.41E-6	8.04E-9	1.13E-7	4.13E-10	-7.15E-7	8.12E-7
AP	mol H+ eq	1.32E-2	2.28E-4	7.31E-4	1.42E-2	1.99E-4	1.98E-3	1.01E-5	-6.25E-3	1.01E-2
EP-fw	kg P eq	1.29E-4	3.97E-7	2.10E-6	1.31E-4	2.87E-7	1.39E-5	1.31E-8	-6.51E-5	8.00E-5
EP-m	kg N eq	2.35E-3	8.05E-5	1.73E-4	2.61E-3	7.11E-5	4.91E-4	6.71E-6	-1.12E-3	2.06E-3
EP-T	mol N eq	2.54E-2	8.87E-4	1.91E-3	2.82E-2	7.84E-4	5.41E-3	4.01E-5	-1.21E-2	2.24E-2
POCP	kg NMVOC eq	8.45E-3	2.53E-4	5.42E-4	9.25E-3	2.24E-4	1.62E-3	1.39E-5	-4.08E-3	7.03E-3
ADP-mm	kg Sb eq	2.52E-3	9.98E-7	4.18E-6	2.52E-3	9.03E-7	7.85E-6	1.01E-8	-3.02E-5	2.50E-3
ADP-f	MJ	7.18E+1	5.94E-1	1.34E+0	7.38E+1	5.36E-1	5.40E+0	3.02E-2	-3.84E+1	4.14E+1
WDP	m3 depriv.	4.30E+0	2.12E-3	1.04E+0	5.34E+0	1.64E-3	2.07E-1	1.90E-4	-2.28E+0	3.27E+0
PM	disease inc.	9.47E-8	3.54E-9	9.03E-9	1.07E-7	3.15E-9	2.50E-8	2.08E-10	-4.96E-8	8.60E-8
IR	kBq U-235 eq	1.58E-1	2.49E-3	2.13E-3	1.62E-1	2.34E-3	1.89E-2	1.39E-4	-7.53E-2	1.09E-1
ETP-fw	CTUe	8.20E+1	5.30E-1	3.12E+0	8.57E+1	4.35E-1	3.97E+1	4.37E-1	-3.07E+1	9.55E+1
HTP-c	CTUh	2.17E-9	1.72E-11	1.08E-10	2.29E-9	1.55E-11	6.05E-10	8.26E-13	-8.38E-10	2.08E-9
HTP-nc	CTUh	7.08E-8	5.79E-10	3.37E-9	7.48E-8	5.19E-10	1.42E-8	8.49E-11	-2.89E-8	6.07E-8
SQP	Pt	1.48E+1	5.15E-1	1.00E-1	1.54E+1	4.58E-1	3.35E+0	7.73E-2	-2.98E+1	-1.05E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.54E+0	7.44E-3	6.52E+0	1.11E+1	7.69E-3	3.82E-1	1.14E-3	-6.24E+0	5.22E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.54E+0	7.44E-3	6.52E+0	1.11E+1	7.69E-3	3.82E-1	1.14E-3	-6.24E+0	5.22E+0
PENRE	MJ	7.70E+1	6.31E-1	1.45E+0	7.91E+1	5.69E-1	5.74E+0	3.20E-2	-4.13E+1	4.42E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.70E+1	6.31E-1	1.45E+0	7.91E+1	5.69E-1	5.74E+0	3.20E-2	-4.13E+1	4.42E+1
PET	MJ	8.16E+1	6.38E-1	7.97E+0	9.02E+1	5.77E-1	6.12E+0	3.32E-2	-4.75E+1	4.94E+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	5.01E-2	7.23E-5	2.45E-2	7.47E-2	6.06E-5	5.70E-3	3.70E-5	-2.73E-2	5.33E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.58E-4	1.51E-6	1.42E-6	3.61E-4	1.37E-6	8.85E-6	3.67E-8	-3.05E-5	3.40E-4
NHWD	kg	2.77E-1	3.77E-2	2.20E-3	3.17E-1	3.32E-2	1.99E-1	1.33E-1	-1.21E-1	5.62E-1
RWD	kg	1.43E-4	3.90E-6	2.64E-6	1.49E-4	3.64E-6	2.05E-5	1.97E-7	-6.70E-5	1.07E-4
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