

Environmental Profile

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

Ecochain v3.5.80



Product: 3004139 - PVC RWA Bend 87.3° GY 100 S/SP
Unit: 1 piece
Manufacturer: Wavin - NL - Hardenberg - Verified
Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

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.

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



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	0.05	0	0	0.06	0	0.02	0	-0.03	0.05
ADPE	kg Sb-eq	4.69E-4	1.70E-7	7.16E-7	4.70E-4	1.54E-7	1.42E-6	1.72E-9	-5.44E-6	4.66E-4
ADPF	kg Sb-eq	5.56E-3	4.89E-5	1.23E-4	5.73E-3	4.33E-5	4.88E-4	2.38E-6	-3.05E-3	3.21E-3
GWP	kg CO2-eq	4.70E-1	6.65E-3	2.34E-2	5.00E-1	5.90E-3	1.66E-1	1.62E-3	-2.65E-1	4.09E-1
ODP	kg CFC-11-eq	2.61E-7	1.18E-9	1.85E-9	2.64E-7	1.09E-9	2.04E-8	5.67E-11	-1.32E-7	1.54E-7
POCP	kg ethene-eq	2.68E-4	4.01E-6	1.02E-5	2.82E-4	3.54E-6	3.90E-5	4.20E-7	-1.39E-4	1.86E-4
AP	kg SO2-eq	1.88E-3	2.92E-5	1.00E-4	2.01E-3	2.54E-5	2.86E-4	1.28E-6	-9.26E-4	1.40E-3
EP	kg PO4 3--eq	2.49E-4	5.75E-6	1.29E-5	2.68E-4	5.07E-6	4.36E-5	5.05E-7	-1.32E-4	1.85E-4
HTP	kg 1,4-DB-eq	1.83E-1	2.80E-3	1.09E-2	1.97E-1	2.52E-3	7.41E-2	1.35E-4	-8.76E-2	1.86E-1
FAETP	kg 1,4-DB-eq	5.88E-3	8.18E-5	3.71E-4	6.33E-3	7.39E-5	1.13E-3	4.14E-5	-2.70E-3	4.88E-3
MAETP	kg 1,4-DB-eq	1.30E+1	2.94E-1	1.46E+0	1.47E+1	2.64E-1	3.96E+0	5.07E-2	-5.67E+0	1.34E+1
TETP	kg 1,4-DB-eq	1.38E-3	9.90E-6	8.07E-4	2.20E-3	8.94E-6	2.62E-4	4.53E-7	-9.04E-4	1.56E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.86E-1	6.71E-3	2.67E-2	5.20E-1	5.95E-3	1.82E-1	1.89E-3	-2.38E-1	4.72E-1
GWP-f	kg CO2 eq	4.81E-1	6.71E-3	2.06E-2	5.08E-1	5.95E-3	1.67E-1	1.89E-3	-2.70E-1	4.12E-1
GWP-b	kg CO2 eq	4.87E-3	3.10E-6	4.24E-3	9.12E-3	3.61E-6	1.51E-2	2.39E-6	3.31E-2	5.73E-2
GWP-luluc	kg CO2 eq	5.96E-4	2.46E-6	1.95E-3	2.55E-3	2.11E-6	7.55E-5	4.96E-8	-4.08E-4	2.22E-3
ODP	kg CFC11 eq	2.57E-7	1.48E-9	2.17E-9	2.61E-7	1.37E-9	2.10E-8	7.04E-11	-1.30E-7	1.53E-7
AP	mol H+ eq	2.30E-3	3.89E-5	1.25E-4	2.47E-3	3.39E-5	3.59E-4	1.71E-6	-1.12E-3	1.74E-3
EP-fw	kg P eq	2.35E-5	6.77E-8	3.60E-7	2.39E-5	4.90E-8	2.53E-6	2.24E-9	-1.24E-5	1.41E-5
EP-m	kg N eq	4.22E-4	1.37E-5	2.96E-5	4.65E-4	1.21E-5	8.84E-5	1.06E-6	-2.04E-4	3.63E-4
EP-T	mol N eq	4.52E-3	1.51E-4	3.26E-4	5.00E-3	1.34E-4	9.74E-4	6.84E-6	-2.20E-3	3.91E-3
POCP	kg NMVOC eq	1.43E-3	4.31E-5	9.29E-5	1.56E-3	3.82E-5	2.91E-4	2.35E-6	-7.20E-4	1.17E-3
ADP-mm	kg Sb eq	4.69E-4	1.70E-7	7.16E-7	4.70E-4	1.54E-7	1.42E-6	1.72E-9	-5.43E-6	4.66E-4
ADP-f	MJ	1.18E+1	1.01E-1	2.30E-1	1.22E+1	9.13E-2	9.64E-1	5.15E-3	-6.45E+0	6.78E+0
WDP	m3 depriv.	7.79E-1	3.62E-4	1.78E-1	9.58E-1	2.80E-4	3.79E-2	3.34E-5	-4.17E-1	5.79E-1
PM	disease inc.	1.60E-8	6.02E-10	1.55E-9	1.82E-8	5.37E-10	4.45E-9	3.54E-11	-9.36E-9	1.38E-8
IR	kBq U-235 eq	2.73E-2	4.24E-4	3.65E-4	2.81E-2	3.99E-4	3.43E-3	2.37E-5	-1.40E-2	1.80E-2
ETP-fw	CTUe	1.59E+1	9.02E-2	5.34E-1	1.65E+1	7.42E-2	7.46E+0	8.22E-2	-6.16E+0	1.79E+1
HTP-c	CTUh	3.96E-10	2.93E-12	1.85E-11	4.17E-10	2.64E-12	1.08E-10	1.42E-13	-1.55E-10	3.73E-10
HTP-nc	CTUh	1.31E-8	9.87E-11	5.77E-10	1.37E-8	8.84E-11	2.59E-9	1.57E-11	-5.34E-9	1.11E-8
SQP	Pt	2.92E+0	8.78E-2	1.72E-2	3.03E+0	7.81E-2	5.87E-1	1.32E-2	-6.91E+0	-3.20E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.74E-1	1.27E-3	1.12E+0	1.99E+0	1.31E-3	6.94E-2	1.92E-4	-1.40E+0	6.62E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.74E-1	1.27E-3	1.12E+0	1.99E+0	1.31E-3	6.94E-2	1.92E-4	-1.40E+0	6.62E-1
PENRE	MJ	1.27E+1	1.07E-1	2.48E-1	1.31E+1	9.69E-2	1.03E+0	5.46E-3	-6.94E+0	7.25E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.27E+1	1.07E-1	2.48E-1	1.31E+1	9.69E-2	1.03E+0	5.46E-3	-6.94E+0	7.25E+0
PET	MJ	1.36E+1	1.09E-1	1.37E+0	1.51E+1	9.83E-2	1.10E+0	5.65E-3	-8.34E+0	7.91E+0
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	8.84E-3	1.23E-5	4.20E-3	1.31E-2	1.03E-5	1.04E-3	6.30E-6	-5.13E-3	8.98E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.76E-5	2.56E-7	2.44E-7	6.81E-5	2.34E-7	1.59E-6	6.27E-9	-5.52E-6	6.44E-5
NHWD	kg	5.10E-2	6.42E-3	3.77E-4	5.78E-2	5.66E-3	3.48E-2	2.26E-2	-2.23E-2	9.86E-2
RWD	kg	2.38E-5	6.64E-7	4.52E-7	2.49E-5	6.21E-7	3.69E-6	3.35E-8	-1.25E-5	1.68E-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