

Environmental Profile

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

Ecochain v3.5.80



Product: 3004033 - PVC RWA Pipe GY 80x1.4 L=3 SG/CH
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	0.32	0.01	0.01	0.34	0.01	0.12	0	-0.16	0.3
ADPE	kg Sb-eq	8.09E-5	2.03E-6	2.66E-6	8.56E-5	1.13E-6	9.47E-6	1.17E-8	-3.35E-5	6.27E-5
ADPF	kg Sb-eq	3.54E-2	5.83E-4	7.13E-4	3.67E-2	3.19E-4	3.34E-3	1.66E-5	-1.88E-2	2.15E-2
GWP	kg CO2-eq	2.86E+0	7.93E-2	1.27E-1	3.07E+0	4.34E-2	1.10E+0	1.04E-2	-1.59E+0	2.63E+0
ODP	kg CFC-11-eq	1.68E-6	1.41E-8	1.19E-8	1.71E-6	8.05E-9	1.34E-7	3.99E-10	-8.31E-7	1.02E-6
POCP	kg ethene-eq	1.76E-3	4.79E-5	5.59E-5	1.86E-3	2.60E-5	2.63E-4	2.78E-6	-8.15E-4	1.34E-3
AP	kg SO2-eq	1.11E-2	3.49E-4	4.98E-4	1.19E-2	1.87E-4	1.92E-3	8.85E-6	-5.23E-3	8.78E-3
EP	kg PO4 3--eq	1.33E-3	6.85E-5	7.86E-5	1.48E-3	3.73E-5	2.91E-4	3.40E-6	-6.41E-4	1.17E-3
HTP	kg 1,4-DB-eq	1.12E+0	3.34E-2	4.79E-2	1.20E+0	1.86E-2	5.15E-1	9.05E-4	-5.08E-1	1.23E+0
FAETP	kg 1,4-DB-eq	2.43E-2	9.75E-4	1.95E-3	2.72E-2	5.44E-4	7.56E-3	2.66E-4	-1.11E-2	2.45E-2
MAETP	kg 1,4-DB-eq	7.08E+1	3.51E+0	7.95E+0	8.22E+1	1.94E+0	2.49E+1	3.26E-1	-3.26E+1	7.68E+1
TETP	kg 1,4-DB-eq	7.82E-3	1.18E-4	2.97E-3	1.09E-2	6.58E-5	1.84E-3	3.00E-6	-3.69E-3	9.12E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.66E+0	8.01E-2	1.49E-1	2.89E+0	4.38E-2	1.41E+0	1.21E-2	-1.64E+0	2.72E+0
GWP-f	kg CO2 eq	2.94E+0	8.00E-2	1.17E-1	3.13E+0	4.37E-2	1.11E+0	1.21E-2	-1.62E+0	2.67E+0
GWP-b	kg CO2 eq	-2.81E-1	3.69E-5	2.53E-2	-2.56E-1	2.66E-5	3.04E-1	1.57E-5	-1.14E-2	3.63E-2
GWP-luluc	kg CO2 eq	2.42E-3	2.93E-5	7.13E-3	9.58E-3	1.55E-5	5.16E-4	3.29E-7	-1.10E-3	9.00E-3
ODP	kg CFC11 eq	1.66E-6	1.77E-8	1.41E-8	1.69E-6	1.01E-8	1.38E-7	4.96E-10	-8.22E-7	1.02E-6
AP	mol H+ eq	1.33E-2	4.64E-4	6.38E-4	1.44E-2	2.49E-4	2.41E-3	1.18E-5	-6.32E-3	1.08E-2
EP-fw	kg P eq	1.30E-4	8.07E-7	1.67E-6	1.33E-4	3.60E-7	1.71E-5	1.48E-8	-6.08E-5	8.93E-5
EP-m	kg N eq	2.27E-3	1.64E-4	1.88E-4	2.62E-3	8.92E-5	5.89E-4	7.20E-6	-1.11E-3	2.19E-3
EP-T	mol N eq	2.46E-2	1.80E-3	2.02E-3	2.84E-2	9.83E-4	6.49E-3	4.74E-5	-1.20E-2	2.39E-2
POCP	kg NMVOC eq	8.45E-3	5.15E-4	5.69E-4	9.54E-3	2.81E-4	1.95E-3	1.61E-5	-4.06E-3	7.72E-3
ADP-mm	kg Sb eq	8.09E-5	2.03E-6	2.66E-6	8.56E-5	1.13E-6	9.47E-6	1.17E-8	-3.35E-5	6.27E-5
ADP-f	MJ	7.53E+1	1.21E+0	1.35E+0	7.79E+1	6.72E-1	6.61E+0	3.59E-2	-3.95E+1	4.57E+1
WDP	m3 depriv.	4.96E+0	4.32E-3	9.16E-1	5.88E+0	2.06E-3	2.56E-1	1.98E-4	-2.36E+0	3.77E+0
PM	disease inc.	1.01E-7	7.18E-9	9.90E-9	1.18E-7	3.95E-9	3.02E-8	2.46E-10	-4.16E-8	1.11E-7
IR	kBq U-235 eq	1.61E-1	5.06E-3	2.44E-3	1.68E-1	2.94E-3	2.31E-2	1.65E-4	-7.64E-2	1.18E-1
ETP-fw	CTUe	5.01E+1	1.08E+0	2.26E+0	5.35E+1	5.45E-1	4.89E+1	5.38E-1	-2.41E+1	7.93E+1
HTP-c	CTUh	2.05E-9	3.49E-11	7.70E-11	2.16E-9	1.94E-11	7.28E-10	9.28E-13	-8.82E-10	2.03E-9
HTP-nc	CTUh	6.43E-8	1.18E-9	2.36E-9	6.79E-8	6.50E-10	1.73E-8	1.03E-10	-3.04E-8	5.55E-8
SQP	Pt	3.69E+1	1.05E+0	1.01E-1	3.80E+1	5.75E-1	4.14E+0	9.10E-2	-1.01E+1	3.27E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.75E+0	1.51E-2	4.08E+0	1.18E+1	9.63E-3	4.72E-1	1.29E-3	-2.90E+0	9.43E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.75E+0	1.51E-2	4.08E+0	1.18E+1	9.63E-3	4.72E-1	1.29E-3	-2.90E+0	9.43E+0
PENRE	MJ	8.08E+1	1.28E+0	1.47E+0	8.36E+1	7.13E-1	7.03E+0	3.81E-2	-4.25E+1	4.88E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.08E+1	1.28E+0	1.47E+0	8.36E+1	7.13E-1	7.03E+0	3.81E-2	-4.25E+1	4.88E+1
PET	MJ	8.86E+1	1.30E+0	5.55E+0	9.54E+1	7.23E-1	7.50E+0	3.94E-2	-4.54E+1	5.82E+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	5.28E-2	1.47E-4	2.16E-2	7.45E-2	7.60E-5	7.01E-3	4.40E-5	-2.47E-2	5.69E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.11E-5	3.06E-6	1.90E-6	6.60E-5	1.72E-6	1.06E-5	4.32E-8	-3.29E-5	4.55E-5
NHWD	kg	2.91E-1	7.65E-2	2.74E-3	3.71E-1	4.16E-2	2.48E-1	1.66E-1	-1.28E-1	6.98E-1
RWD	kg	1.42E-4	7.92E-6	3.41E-6	1.53E-4	4.57E-6	2.48E-5	2.35E-7	-6.75E-5	1.15E-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



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