

Environmental Profile

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

Ecochain v3.5.80



Product: 3004141 - PVC Bend RWA 87.3° GY 60 S/RSP
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	0.02	0	0	0.02	0	0.01	0	-0.01	0.02
ADPE	kg Sb-eq	1.53E-4	5.44E-8	2.38E-7	1.54E-4	5.04E-8	4.60E-7	5.63E-10	-1.76E-6	1.52E-4
ADPF	kg Sb-eq	1.81E-3	1.57E-5	4.09E-5	1.87E-3	1.42E-5	1.59E-4	7.79E-7	-9.92E-4	1.05E-3
GWP	kg CO2-eq	1.52E-1	2.13E-3	7.75E-3	1.62E-1	1.93E-3	5.43E-2	5.30E-4	-8.55E-2	1.33E-1
ODP	kg CFC-11-eq	8.51E-8	3.78E-10	6.13E-10	8.61E-8	3.58E-10	6.65E-9	1.86E-11	-4.30E-8	5.01E-8
POCP	kg ethene-eq	8.70E-5	1.29E-6	3.37E-6	9.17E-5	1.16E-6	1.26E-5	1.38E-7	-4.45E-5	6.11E-5
AP	kg SO2-eq	6.09E-4	9.37E-6	3.33E-5	6.52E-4	8.32E-6	9.27E-5	4.19E-7	-2.94E-4	4.59E-4
EP	kg PO4 3--eq	7.91E-5	1.84E-6	4.29E-6	8.52E-5	1.66E-6	1.41E-5	1.65E-7	-4.05E-5	6.07E-5
HTP	kg 1,4-DB-eq	5.93E-2	8.97E-4	3.60E-3	6.38E-2	8.27E-4	2.41E-2	4.41E-5	-2.80E-2	6.08E-2
FAETP	kg 1,4-DB-eq	1.83E-3	2.62E-5	1.23E-4	1.98E-3	2.42E-5	3.69E-4	1.36E-5	-8.10E-4	1.58E-3
MAETP	kg 1,4-DB-eq	4.20E+0	9.42E-2	4.85E-1	4.78E+0	8.65E-2	1.27E+0	1.66E-2	-1.81E+0	4.34E+0
TETP	kg 1,4-DB-eq	4.42E-4	3.17E-6	2.68E-4	7.13E-4	2.93E-6	8.57E-5	1.48E-7	-2.71E-4	5.31E-4
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.57E-1	2.15E-3	8.87E-3	1.68E-1	1.95E-3	5.85E-2	6.18E-4	-7.92E-2	1.50E-1
GWP-f	kg CO2 eq	1.55E-1	2.15E-3	6.82E-3	1.64E-1	1.95E-3	5.47E-2	6.18E-4	-8.73E-2	1.34E-1
GWP-b	kg CO2 eq	1.55E-3	9.92E-7	1.41E-3	2.96E-3	1.18E-6	3.80E-3	7.82E-7	8.24E-3	1.50E-2
GWP-luluc	kg CO2 eq	1.81E-4	7.87E-7	6.47E-4	8.29E-4	6.89E-7	2.46E-5	1.62E-8	-1.15E-4	7.39E-4
ODP	kg CFC11 eq	8.40E-8	4.74E-10	7.21E-10	8.51E-8	4.49E-10	6.85E-9	2.31E-11	-4.25E-8	5.00E-8
AP	mol H+ eq	7.43E-4	1.25E-5	4.16E-5	7.97E-4	1.11E-5	1.16E-4	5.61E-7	-3.56E-4	5.69E-4
EP-fw	kg P eq	7.55E-6	2.17E-8	1.19E-7	7.69E-6	1.60E-8	8.26E-7	7.34E-10	-3.83E-6	4.70E-6
EP-m	kg N eq	1.34E-4	4.39E-6	9.82E-6	1.48E-4	3.97E-6	2.85E-5	3.48E-7	-6.39E-5	1.17E-4
EP-T	mol N eq	1.44E-3	4.84E-5	1.08E-4	1.60E-3	4.38E-5	3.14E-4	2.24E-6	-6.88E-4	1.27E-3
POCP	kg NMVOC eq	4.60E-4	1.38E-5	3.08E-5	5.04E-4	1.25E-5	9.39E-5	7.70E-7	-2.28E-4	3.84E-4
ADP-mm	kg Sb eq	1.53E-4	5.44E-8	2.38E-7	1.54E-4	5.04E-8	4.60E-7	5.63E-10	-1.76E-6	1.52E-4
ADP-f	MJ	3.85E+0	3.24E-2	7.62E-2	3.96E+0	2.99E-2	3.13E-1	1.69E-3	-2.09E+0	2.22E+0
WDP	m3 depriv.	2.55E-1	1.16E-4	5.90E-2	3.14E-1	9.18E-5	1.24E-2	1.09E-5	-1.33E-1	1.93E-1
PM	disease inc.	5.07E-9	1.93E-10	5.13E-10	5.77E-9	1.76E-10	1.44E-9	1.16E-11	-2.82E-9	4.58E-9
IR	kBq U-235 eq	8.83E-3	1.36E-4	1.21E-4	9.09E-3	1.31E-4	1.11E-3	7.74E-6	-4.41E-3	5.92E-3
ETP-fw	CTUe	4.87E+0	2.89E-2	1.77E-1	5.08E+0	2.43E-2	2.44E+0	2.69E-2	-1.82E+0	5.75E+0
HTP-c	CTUh	1.28E-10	9.37E-13	6.13E-12	1.35E-10	8.64E-13	3.49E-11	4.66E-14	-4.91E-11	1.22E-10
HTP-nc	CTUh	4.24E-9	3.16E-11	1.91E-10	4.47E-9	2.89E-11	8.44E-10	5.16E-12	-1.70E-9	3.65E-9
SQP	Pt	8.54E-1	2.81E-2	5.70E-3	8.88E-1	2.56E-2	1.91E-1	4.32E-3	-1.79E+0	-6.86E-1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.65E-1	4.06E-4	3.71E-1	6.36E-1	4.29E-4	2.27E-2	6.29E-5	-3.74E-1	2.85E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.65E-1	4.06E-4	3.71E-1	6.36E-1	4.29E-4	2.27E-2	6.29E-5	-3.74E-1	2.85E-1
PENRE	MJ	4.13E+0	3.44E-2	8.24E-2	4.25E+0	3.17E-2	3.33E-1	1.79E-3	-2.25E+0	2.37E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.13E+0	3.44E-2	8.24E-2	4.25E+0	3.17E-2	3.33E-1	1.79E-3	-2.25E+0	2.37E+0
PET	MJ	4.40E+0	3.48E-2	4.53E-1	4.89E+0	3.22E-2	3.56E-1	1.85E-3	-2.63E+0	2.65E+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	2.87E-3	3.95E-6	1.39E-3	4.27E-3	3.38E-6	3.40E-4	2.06E-6	-1.58E-3	3.03E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.21E-5	8.21E-8	8.10E-8	2.22E-5	7.65E-8	5.14E-7	2.05E-9	-1.78E-6	2.11E-5
NHWD	kg	1.63E-2	2.06E-3	1.25E-4	1.85E-2	1.85E-3	1.13E-2	7.41E-3	-7.09E-3	3.20E-2
RWD	kg	7.68E-6	2.13E-7	1.50E-7	8.04E-6	2.03E-7	1.19E-6	1.10E-8	-3.93E-6	5.52E-6
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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