

Environmental Profile

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

Ecochain v3.5.80



Product: 3004143 - PVC Bend RWA 87.3° GY 70 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	0.03	0	0	0.03	0	0.01	0	-0.01	0.02
ADPE	kg Sb-eq	2.45E-4	8.89E-8	3.81E-7	2.45E-4	8.04E-8	7.43E-7	8.97E-10	-2.84E-6	2.43E-4
ADPF	kg Sb-eq	2.91E-3	2.56E-5	6.55E-5	3.00E-3	2.26E-5	2.55E-4	1.24E-6	-1.60E-3	1.68E-3
GWP	kg CO2-eq	2.46E-1	3.48E-3	1.24E-2	2.62E-1	3.08E-3	8.67E-2	8.46E-4	-1.39E-1	2.14E-1
ODP	kg CFC-11-eq	1.36E-7	6.17E-10	9.83E-10	1.38E-7	5.71E-10	1.07E-8	2.96E-11	-6.88E-8	8.02E-8
POCP	kg ethene-eq	1.40E-4	2.10E-6	5.40E-6	1.48E-4	1.85E-6	2.04E-5	2.19E-7	-7.28E-5	9.75E-5
AP	kg SO2-eq	9.86E-4	1.53E-5	5.35E-5	1.05E-3	1.33E-5	1.49E-4	6.69E-7	-4.85E-4	7.33E-4
EP	kg PO4 3--eq	1.31E-4	3.01E-6	6.87E-6	1.41E-4	2.65E-6	2.28E-5	2.64E-7	-6.92E-5	9.70E-5
HTP	kg 1,4-DB-eq	9.59E-2	1.47E-3	5.78E-3	1.03E-1	1.32E-3	3.87E-2	7.02E-5	-4.58E-2	9.74E-2
FAETP	kg 1,4-DB-eq	3.08E-3	4.28E-5	1.97E-4	3.32E-3	3.86E-5	5.94E-4	2.16E-5	-1.42E-3	2.56E-3
MAETP	kg 1,4-DB-eq	6.80E+0	1.54E-1	7.78E-1	7.73E+0	1.38E-1	2.07E+0	2.65E-2	-2.97E+0	7.00E+0
TETP	kg 1,4-DB-eq	7.21E-4	5.18E-6	4.30E-4	1.16E-3	4.67E-6	1.37E-4	2.36E-7	-4.75E-4	8.23E-4
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.54E-1	3.51E-3	1.42E-2	2.72E-1	3.11E-3	9.53E-2	9.86E-4	-1.24E-1	2.48E-1
GWP-f	kg CO2 eq	2.52E-1	3.51E-3	1.09E-2	2.66E-1	3.11E-3	8.73E-2	9.86E-4	-1.42E-1	2.16E-1
GWP-b	kg CO2 eq	2.54E-3	1.62E-6	2.26E-3	4.80E-3	1.89E-6	8.01E-3	1.25E-6	1.76E-2	3.04E-2
GWP-luluc	kg CO2 eq	3.13E-4	1.29E-6	1.04E-3	1.35E-3	1.10E-6	3.94E-5	2.59E-8	-2.15E-4	1.18E-3
ODP	kg CFC11 eq	1.34E-7	7.75E-10	1.16E-9	1.36E-7	7.16E-10	1.10E-8	3.68E-11	-6.81E-8	7.99E-8
AP	mol H+ eq	1.20E-3	2.04E-5	6.67E-5	1.29E-3	1.77E-5	1.88E-4	8.95E-7	-5.88E-4	9.10E-4
EP-fw	kg P eq	1.23E-5	3.54E-8	1.92E-7	1.25E-5	2.56E-8	1.32E-6	1.17E-9	-6.50E-6	7.38E-6
EP-m	kg N eq	2.21E-4	7.17E-6	1.58E-5	2.44E-4	6.33E-6	4.62E-5	5.55E-7	-1.07E-4	1.91E-4
EP-T	mol N eq	2.37E-3	7.91E-5	1.74E-4	2.62E-3	6.98E-5	5.09E-4	3.57E-6	-1.15E-3	2.05E-3
POCP	kg NMVOC eq	7.47E-4	2.26E-5	4.94E-5	8.19E-4	1.99E-5	1.52E-4	1.23E-6	-3.77E-4	6.16E-4
ADP-mm	kg Sb eq	2.45E-4	8.89E-8	3.81E-7	2.45E-4	8.04E-8	7.43E-7	8.97E-10	-2.84E-6	2.43E-4
ADP-f	MJ	6.20E+0	5.29E-2	1.22E-1	6.37E+0	4.77E-2	5.04E-1	2.69E-3	-3.37E+0	3.55E+0
WDP	m3 depriv.	4.07E-1	1.89E-4	9.46E-2	5.02E-1	1.46E-4	1.98E-2	1.74E-5	-2.18E-1	3.04E-1
PM	disease inc.	8.41E-9	3.15E-10	8.23E-10	9.55E-9	2.80E-10	2.33E-9	1.85E-11	-4.92E-9	7.25E-9
IR	kBq U-235 eq	1.43E-2	2.22E-4	1.94E-4	1.47E-2	2.08E-4	1.79E-3	1.23E-5	-7.31E-3	9.38E-3
ETP-fw	CTUe	8.32E+0	4.72E-2	2.84E-1	8.65E+0	3.87E-2	3.90E+0	4.29E-2	-3.24E+0	9.39E+0
HTP-c	CTUh	2.07E-10	1.53E-12	9.83E-12	2.18E-10	1.38E-12	5.63E-11	7.42E-14	-8.09E-11	1.95E-10
HTP-nc	CTUh	6.83E-9	5.16E-11	3.07E-10	7.18E-9	4.62E-11	1.35E-9	8.22E-12	-2.80E-9	5.79E-9
SQP	Pt	1.54E+0	4.59E-2	9.14E-3	1.59E+0	4.08E-2	3.07E-1	6.88E-3	-3.66E+0	-1.71E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.59E-1	6.63E-4	5.94E-1	1.05E+0	6.84E-4	3.62E-2	1.00E-4	-7.42E-1	3.50E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.59E-1	6.63E-4	5.94E-1	1.05E+0	6.84E-4	3.62E-2	1.00E-4	-7.42E-1	3.50E-1
PENRE	MJ	6.65E+0	5.62E-2	1.32E-1	6.83E+0	5.06E-2	5.36E-1	2.85E-3	-3.63E+0	3.79E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.65E+0	5.62E-2	1.32E-1	6.83E+0	5.06E-2	5.36E-1	2.85E-3	-3.63E+0	3.79E+0
PET	MJ	7.11E+0	5.69E-2	7.27E-1	7.89E+0	5.13E-2	5.72E-1	2.95E-3	-4.37E+0	4.14E+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	4.62E-3	6.45E-6	2.24E-3	6.87E-3	5.40E-6	5.43E-4	3.29E-6	-2.69E-3	4.73E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.53E-5	1.34E-7	1.30E-7	3.55E-5	1.22E-7	8.30E-7	3.27E-9	-2.89E-6	3.36E-5
NHWD	kg	2.67E-2	3.36E-3	2.00E-4	3.03E-2	2.96E-3	1.82E-2	1.18E-2	-1.16E-2	5.16E-2
RWD	kg	1.24E-5	3.48E-7	2.41E-7	1.30E-5	3.24E-7	1.93E-6	1.75E-8	-6.52E-6	8.78E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777