

Environmental Profile

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

Ecochain v3.5.80



Product: 3001277 - PVC Bend 30° GY 110 SN8 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	0.07	0	0	0.08	0	0.02	0	-0.04	0.07
ADPE	kg Sb-eq	5.90E-4	2.30E-7	9.64E-7	5.91E-4	2.07E-7	1.79E-6	2.38E-9	-7.36E-6	5.86E-4
ADPF	kg Sb-eq	8.09E-3	6.61E-5	1.66E-4	8.32E-3	5.83E-5	6.20E-4	3.30E-6	-4.25E-3	4.76E-3
GWP	kg CO2-eq	6.53E-1	8.99E-3	3.14E-2	6.94E-1	7.94E-3	2.65E-1	2.36E-3	-3.61E-1	6.08E-1
ODP	kg CFC-11-eq	3.27E-7	1.60E-9	2.49E-9	3.31E-7	1.47E-9	2.52E-8	7.86E-11	-1.63E-7	1.95E-7
POCP	kg ethene-eq	4.13E-4	5.43E-6	1.37E-5	4.32E-4	4.77E-6	4.97E-5	6.01E-7	-1.86E-4	3.01E-4
AP	kg SO2-eq	2.62E-3	3.95E-5	1.35E-4	2.80E-3	3.42E-5	3.63E-4	1.77E-6	-1.17E-3	2.02E-3
EP	kg PO4 3--eq	3.34E-4	7.77E-6	1.74E-5	3.59E-4	6.83E-6	5.64E-5	7.83E-7	-1.60E-4	2.63E-4
HTP	kg 1,4-DB-eq	2.49E-1	3.79E-3	1.46E-2	2.67E-1	3.40E-3	9.53E-2	1.91E-4	-1.09E-1	2.57E-1
FAETP	kg 1,4-DB-eq	7.48E-3	1.11E-4	4.99E-4	8.09E-3	9.95E-5	1.49E-3	7.18E-5	-3.15E-3	6.60E-3
MAETP	kg 1,4-DB-eq	1.78E+1	3.98E-1	1.97E+0	2.01E+1	3.56E-1	5.02E+0	8.34E-2	-7.02E+0	1.86E+1
TETP	kg 1,4-DB-eq	1.74E-3	1.34E-5	1.09E-3	2.84E-3	1.20E-5	3.38E-4	6.16E-7	-1.04E-3	2.15E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.75E-1	9.07E-3	3.60E-2	7.20E-1	8.01E-3	2.81E-1	2.75E-3	-3.37E-1	6.75E-1
GWP-f	kg CO2 eq	6.69E-1	9.07E-3	2.76E-2	7.06E-1	8.01E-3	2.66E-1	2.75E-3	-3.69E-1	6.13E-1
GWP-b	kg CO2 eq	5.11E-3	4.19E-6	5.71E-3	1.08E-2	4.86E-6	1.50E-2	3.33E-6	3.27E-2	5.85E-2
GWP-luluc	kg CO2 eq	7.33E-4	3.32E-6	2.62E-3	3.36E-3	2.83E-6	9.50E-5	6.85E-8	-4.50E-4	3.01E-3
ODP	kg CFC11 eq	3.25E-7	2.00E-9	2.92E-9	3.30E-7	1.85E-9	2.60E-8	9.76E-11	-1.61E-7	1.96E-7
AP	mol H+ eq	3.19E-3	5.26E-5	1.69E-4	3.41E-3	4.56E-5	4.57E-4	2.37E-6	-1.42E-3	2.50E-3
EP-fw	kg P eq	3.04E-5	9.15E-8	4.84E-7	3.10E-5	6.59E-8	3.17E-6	3.11E-9	-1.48E-5	1.94E-5
EP-m	kg N eq	5.69E-4	1.85E-5	3.98E-5	6.28E-4	1.63E-5	1.14E-4	1.65E-6	-2.57E-4	5.02E-4
EP-T	mol N eq	6.16E-3	2.04E-4	4.39E-4	6.80E-3	1.80E-4	1.25E-3	9.47E-6	-2.78E-3	5.47E-3
POCP	kg NMVOC eq	2.06E-3	5.83E-5	1.25E-4	2.25E-3	5.14E-5	3.75E-4	3.29E-6	-9.37E-4	1.74E-3
ADP-mm	kg Sb eq	5.90E-4	2.30E-7	9.64E-7	5.91E-4	2.07E-7	1.79E-6	2.38E-9	-7.36E-6	5.86E-4
ADP-f	MJ	1.72E+1	1.37E-1	3.09E-1	1.76E+1	1.23E-1	1.23E+0	7.13E-3	-8.90E+0	1.01E+1
WDP	m3 depriv.	1.01E+0	4.89E-4	2.39E-1	1.25E+0	3.77E-4	4.77E-2	4.46E-5	-5.11E-1	7.82E-1
PM	disease inc.	2.37E-8	8.14E-10	2.08E-9	2.66E-8	7.23E-10	5.68E-9	4.91E-11	-1.14E-8	2.16E-8
IR	kBq U-235 eq	3.80E-2	5.73E-4	4.91E-4	3.90E-2	5.37E-4	4.32E-3	3.29E-5	-1.71E-2	2.68E-2
ETP-fw	CTUe	1.96E+1	1.22E-1	7.18E-1	2.05E+1	9.98E-2	9.21E+0	1.01E-1	-7.08E+0	2.28E+1
HTP-c	CTUh	5.13E-10	3.96E-12	2.48E-11	5.42E-10	3.55E-12	1.38E-10	1.95E-13	-1.90E-10	4.93E-10
HTP-nc	CTUh	1.67E-8	1.33E-10	7.76E-10	1.76E-8	1.19E-10	3.26E-9	1.98E-11	-6.50E-9	1.45E-8
SQP	Pt	3.59E+0	1.19E-1	2.31E-2	3.73E+0	1.05E-1	7.57E-1	1.83E-2	-7.09E+0	-2.47E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.08E+0	1.71E-3	1.50E+0	2.58E+0	1.76E-3	8.72E-2	2.71E-4	-1.47E+0	1.20E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.08E+0	1.71E-3	1.50E+0	2.58E+0	1.76E-3	8.72E-2	2.71E-4	-1.47E+0	1.20E+0
PENRE	MJ	1.84E+1	1.45E-1	3.34E-1	1.89E+1	1.31E-1	1.31E+0	7.57E-3	-9.59E+0	1.07E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.84E+1	1.45E-1	3.34E-1	1.89E+1	1.31E-1	1.31E+0	7.57E-3	-9.59E+0	1.07E+1
PET	MJ	1.95E+1	1.47E-1	1.84E+0	2.15E+1	1.32E-1	1.39E+0	7.84E-3	-1.11E+1	1.19E+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	1.19E-2	1.67E-5	5.65E-3	1.76E-2	1.39E-5	1.36E-3	8.75E-6	-6.20E-3	1.27E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.31E-5	3.47E-7	3.28E-7	8.37E-5	3.14E-7	2.04E-6	8.66E-9	-7.20E-6	7.89E-5
NHWD	kg	6.70E-2	8.67E-3	5.07E-4	7.62E-2	7.62E-3	4.59E-2	3.13E-2	-2.73E-2	1.34E-1
RWD	kg	3.51E-5	8.98E-7	6.08E-7	3.66E-5	8.36E-7	4.67E-6	4.64E-8	-1.54E-5	2.68E-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



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