

Environmental Profile

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

Ecochain v3.5.80



Product: 3001278 - Wafix PVC Bend 45° GY 110 SN8 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]

Statement of Confidentiality

This document and supporting material contain confidential and proprietary business information of Wavin - NL - Hardenberg - Verified. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - NL - Hardenberg - Verified.

Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.07	0	0	0.07	0	0.02	0	-0.03	0.06
ADPE	kg Sb-eq	5.67E-4	2.24E-7	9.57E-7	5.68E-4	2.03E-7	1.76E-6	2.26E-9	-6.78E-6	5.63E-4
ADPF	kg Sb-eq	7.57E-3	6.44E-5	1.65E-4	7.80E-3	5.71E-5	6.12E-4	3.14E-6	-4.09E-3	4.38E-3
GWP	kg CO2-eq	6.12E-1	8.76E-3	3.12E-2	6.52E-1	7.78E-3	2.20E-1	2.23E-3	-3.44E-1	5.37E-1
ODP	kg CFC-11-eq	3.15E-7	1.55E-9	2.47E-9	3.19E-7	1.44E-9	2.46E-8	7.48E-11	-1.62E-7	1.82E-7
POCP	kg ethene-eq	3.78E-4	5.29E-6	1.36E-5	3.97E-4	4.67E-6	4.92E-5	5.69E-7	-1.82E-4	2.69E-4
AP	kg SO2-eq	2.44E-3	3.85E-5	1.34E-4	2.61E-3	3.35E-5	3.55E-4	1.69E-6	-1.16E-3	1.84E-3
EP	kg PO4 3--eq	3.11E-4	7.57E-6	1.73E-5	3.35E-4	6.69E-6	5.44E-5	7.15E-7	-1.56E-4	2.41E-4
HTP	kg 1,4-DB-eq	2.31E-1	3.69E-3	1.45E-2	2.50E-1	3.33E-3	9.47E-2	1.82E-4	-1.08E-1	2.40E-1
FAETP	kg 1,4-DB-eq	7.00E-3	1.08E-4	4.95E-4	7.60E-3	9.75E-5	1.47E-3	6.88E-5	-3.07E-3	6.16E-3
MAETP	kg 1,4-DB-eq	1.64E+1	3.87E-1	1.95E+0	1.87E+1	3.48E-1	4.92E+0	8.00E-2	-6.96E+0	1.71E+1
TETP	kg 1,4-DB-eq	1.66E-3	1.30E-5	1.08E-3	2.75E-3	1.18E-5	3.34E-4	5.85E-7	-1.02E-3	2.08E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.32E-1	8.84E-3	3.57E-2	6.77E-1	7.85E-3	2.35E-1	2.60E-3	-3.22E-1	6.00E-1
GWP-f	kg CO2 eq	6.26E-1	8.83E-3	2.75E-2	6.63E-1	7.84E-3	2.21E-1	2.60E-3	-3.52E-1	5.42E-1
GWP-b	kg CO2 eq	5.40E-3	4.08E-6	5.67E-3	1.11E-2	4.76E-6	1.38E-2	3.16E-6	2.99E-2	5.49E-2
GWP-luluc	kg CO2 eq	6.86E-4	3.24E-6	2.61E-3	3.30E-3	2.78E-6	9.37E-5	6.52E-8	-4.32E-4	2.96E-3
ODP	kg CFC11 eq	3.11E-7	1.95E-9	2.90E-9	3.16E-7	1.81E-9	2.54E-8	9.29E-11	-1.61E-7	1.83E-7
AP	mol H+ eq	2.97E-3	5.12E-5	1.67E-4	3.19E-3	4.47E-5	4.46E-4	2.26E-6	-1.40E-3	2.28E-3
EP-fw	kg P eq	2.89E-5	8.91E-8	4.81E-7	2.94E-5	6.45E-8	3.12E-6	2.96E-9	-1.46E-5	1.80E-5
EP-m	kg N eq	5.28E-4	1.81E-5	3.95E-5	5.86E-4	1.60E-5	1.10E-4	1.51E-6	-2.51E-4	4.63E-4
EP-T	mol N eq	5.71E-3	1.99E-4	4.36E-4	6.35E-3	1.76E-4	1.21E-3	9.02E-6	-2.71E-3	5.04E-3
POCP	kg NMVOC eq	1.90E-3	5.68E-5	1.24E-4	2.08E-3	5.04E-5	3.65E-4	3.13E-6	-9.15E-4	1.58E-3
ADP-mm	kg Sb eq	5.67E-4	2.24E-7	9.57E-7	5.68E-4	2.03E-7	1.76E-6	2.26E-9	-6.78E-6	5.63E-4
ADP-f	MJ	1.61E+1	1.33E-1	3.07E-1	1.66E+1	1.20E-1	1.21E+0	6.79E-3	-8.61E+0	9.30E+0
WDP	m3 depriv.	9.67E-1	4.77E-4	2.38E-1	1.20E+0	3.70E-4	4.65E-2	4.28E-5	-5.11E-1	7.41E-1
PM	disease inc.	2.12E-8	7.93E-10	2.07E-9	2.41E-8	7.08E-10	5.61E-9	4.67E-11	-1.11E-8	1.94E-8
IR	kBq U-235 eq	3.55E-2	5.58E-4	4.88E-4	3.65E-2	5.26E-4	4.26E-3	3.13E-5	-1.69E-2	2.44E-2
ETP-fw	CTUe	1.84E+1	1.19E-1	7.13E-1	1.92E+1	9.78E-2	8.93E+0	9.83E-2	-6.87E+0	2.15E+1
HTP-c	CTUh	4.88E-10	3.85E-12	2.47E-11	5.16E-10	3.48E-12	1.36E-10	1.86E-13	-1.88E-10	4.68E-10
HTP-nc	CTUh	1.59E-8	1.30E-10	7.71E-10	1.68E-8	1.17E-10	3.19E-9	1.91E-11	-6.48E-9	1.37E-8
SQP	Pt	3.31E+0	1.16E-1	2.30E-2	3.45E+0	1.03E-1	7.53E-1	1.74E-2	-6.60E+0	-2.28E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.02E+0	1.67E-3	1.49E+0	2.51E+0	1.73E-3	8.59E-2	2.56E-4	-1.38E+0	1.21E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.02E+0	1.67E-3	1.49E+0	2.51E+0	1.73E-3	8.59E-2	2.56E-4	-1.38E+0	1.21E+0
PENRE	MJ	1.73E+1	1.41E-1	3.32E-1	1.78E+1	1.28E-1	1.29E+0	7.20E-3	-9.27E+0	9.92E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.73E+1	1.41E-1	3.32E-1	1.78E+1	1.28E-1	1.29E+0	7.20E-3	-9.27E+0	9.92E+0
PET	MJ	1.83E+1	1.43E-1	1.82E+0	2.03E+1	1.30E-1	1.38E+0	7.46E-3	-1.07E+1	1.11E+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	1.13E-2	1.62E-5	5.62E-3	1.69E-2	1.36E-5	1.28E-3	8.32E-6	-6.11E-3	1.21E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.06E-5	3.38E-7	3.26E-7	8.12E-5	3.08E-7	1.99E-6	8.25E-9	-6.85E-6	7.67E-5
NHWD	kg	6.23E-2	8.45E-3	5.03E-4	7.13E-2	7.46E-3	4.48E-2	2.98E-2	-2.72E-2	1.26E-1
RWD	kg	3.20E-5	8.75E-7	6.04E-7	3.35E-5	8.19E-7	4.61E-6	4.42E-8	-1.50E-5	2.39E-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