

Environmental Profile

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

Ecochain v3.5.80



Product: 3001305 - Wafix PVC Bend 30° GY 160 SN4 S/S
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	0.22	0	0.01	0.23	0	0.07	0	-0.11	0.19
ADPE	kg Sb-eq	1.73E-3	7.27E-7	2.96E-6	1.73E-3	6.44E-7	5.52E-6	7.18E-9	-2.12E-5	1.72E-3
ADPF	kg Sb-eq	2.46E-2	2.09E-4	5.09E-4	2.53E-2	1.81E-4	1.91E-3	9.96E-6	-1.32E-2	1.42E-2
GWP	kg CO2-eq	1.96E+0	2.84E-2	9.66E-2	2.09E+0	2.47E-2	7.02E-1	7.21E-3	-1.10E+0	1.72E+0
ODP	kg CFC-11-eq	9.62E-7	5.04E-9	7.64E-9	9.75E-7	4.58E-9	7.52E-8	2.38E-10	-5.02E-7	5.53E-7
POCP	kg ethene-eq	1.25E-3	1.72E-5	4.20E-5	1.30E-3	1.48E-5	1.56E-4	1.83E-6	-5.91E-4	8.86E-4
AP	kg SO2-eq	7.79E-3	1.25E-4	4.15E-4	8.33E-3	1.06E-4	1.11E-3	5.35E-6	-3.71E-3	5.84E-3
EP	kg PO4 3--eq	9.96E-4	2.46E-5	5.34E-5	1.07E-3	2.12E-5	1.71E-4	2.34E-6	-5.07E-4	7.62E-4
HTP	kg 1,4-DB-eq	7.31E-1	1.20E-2	4.49E-2	7.88E-1	1.06E-2	2.99E-1	5.84E-4	-3.40E-1	7.58E-1
FAETP	kg 1,4-DB-eq	2.24E-2	3.49E-4	1.53E-3	2.43E-2	3.10E-4	4.67E-3	2.38E-4	-1.00E-2	1.95E-2
MAETP	kg 1,4-DB-eq	5.18E+1	1.26E+0	6.04E+0	5.91E+1	1.11E+0	1.55E+1	2.72E-1	-2.20E+1	5.41E+1
TETP	kg 1,4-DB-eq	5.18E-3	4.23E-5	3.34E-3	8.56E-3	3.74E-5	1.05E-3	1.84E-6	-3.32E-3	6.32E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.03E+0	2.87E-2	1.11E-1	2.17E+0	2.49E-2	7.57E-1	8.41E-3	-1.02E+0	1.94E+0
GWP-f	kg CO2 eq	2.01E+0	2.87E-2	8.50E-2	2.12E+0	2.49E-2	7.06E-1	8.41E-3	-1.13E+0	1.73E+0
GWP-b	kg CO2 eq	1.62E-2	1.32E-5	1.75E-2	3.38E-2	1.51E-5	5.02E-2	1.01E-5	1.09E-1	1.93E-1
GWP-luluc	kg CO2 eq	2.22E-3	1.05E-5	8.07E-3	1.03E-2	8.81E-6	2.90E-4	2.07E-7	-1.46E-3	9.14E-3
ODP	kg CFC11 eq	9.55E-7	6.33E-9	8.98E-9	9.70E-7	5.74E-9	7.79E-8	2.95E-10	-4.98E-7	5.57E-7
AP	mol H+ eq	9.49E-3	1.66E-4	5.18E-4	1.02E-2	1.42E-4	1.39E-3	7.17E-6	-4.50E-3	7.22E-3
EP-fw	kg P eq	9.08E-5	2.89E-7	1.49E-6	9.26E-5	2.05E-7	9.65E-6	9.38E-9	-4.68E-5	5.56E-5
EP-m	kg N eq	1.70E-3	5.86E-5	1.22E-4	1.88E-3	5.08E-5	3.47E-4	4.93E-6	-8.09E-4	1.47E-3
EP-T	mol N eq	1.83E-2	6.46E-4	1.35E-3	2.03E-2	5.59E-4	3.83E-3	2.86E-5	-8.75E-3	1.60E-2
POCP	kg NMVOC eq	6.16E-3	1.84E-4	3.84E-4	6.73E-3	1.60E-4	1.15E-3	9.96E-6	-2.96E-3	5.09E-3
ADP-mm	kg Sb eq	1.73E-3	7.27E-7	2.96E-6	1.73E-3	6.44E-7	5.52E-6	7.18E-9	-2.12E-5	1.72E-3
ADP-f	MJ	5.23E+1	4.32E-1	9.50E-1	5.37E+1	3.82E-1	3.80E+0	2.15E-2	-2.78E+1	3.01E+1
WDP	m3 depriv.	3.00E+0	1.55E-3	7.35E-1	3.73E+0	1.17E-3	1.43E-1	1.34E-4	-1.62E+0	2.26E+0
PM	disease inc.	7.00E-8	2.58E-9	6.40E-9	7.90E-8	2.25E-9	1.77E-8	1.48E-10	-3.66E-8	6.25E-8
IR	kBq U-235 eq	1.13E-1	1.81E-3	1.51E-3	1.17E-1	1.67E-3	1.33E-2	9.94E-5	-5.36E-2	7.81E-2
ETP-fw	CTUe	5.90E+1	3.86E-1	2.21E+0	6.16E+1	3.10E-1	2.72E+1	2.98E-1	-2.26E+1	6.68E+1
HTP-c	CTUh	1.52E-9	1.25E-11	7.64E-11	1.61E-9	1.10E-11	4.28E-10	5.87E-13	-5.95E-10	1.45E-9
HTP-nc	CTUh	4.93E-8	4.22E-10	2.38E-9	5.21E-8	3.70E-10	9.85E-9	5.84E-11	-2.05E-8	4.19E-8
SQP	Pt	1.11E+1	3.75E-1	7.10E-2	1.15E+1	3.27E-1	2.38E+0	5.52E-2	-2.35E+1	-9.18E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.32E+0	5.41E-3	4.62E+0	7.94E+0	5.48E-3	2.66E-1	8.17E-4	-4.84E+0	3.37E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.32E+0	5.41E-3	4.62E+0	7.94E+0	5.48E-3	2.66E-1	8.17E-4	-4.84E+0	3.37E+0
PENRE	MJ	5.61E+1	4.59E-1	1.03E+0	5.76E+1	4.06E-1	4.04E+0	2.29E-2	-2.99E+1	3.22E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.61E+1	4.59E-1	1.03E+0	5.76E+1	4.06E-1	4.04E+0	2.29E-2	-2.99E+1	3.22E+1
PET	MJ	5.94E+1	4.65E-1	5.64E+0	6.55E+1	4.11E-1	4.31E+0	2.37E-2	-3.48E+1	3.55E+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	3.57E-2	5.27E-5	1.74E-2	5.31E-2	4.33E-5	3.96E-3	2.64E-5	-1.97E-2	3.74E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.45E-4	1.10E-6	1.01E-6	2.47E-4	9.78E-7	6.25E-6	2.62E-8	-2.16E-5	2.33E-4
NHWD	kg	1.97E-1	2.74E-2	1.56E-3	2.26E-1	2.37E-2	1.42E-1	9.47E-2	-8.58E-2	4.00E-1
RWD	kg	1.04E-4	2.84E-6	1.87E-6	1.09E-4	2.60E-6	1.45E-5	1.40E-7	-4.78E-5	7.81E-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