

Environmental Profile

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

Ecochain v3.5.80



Product: 3001286 - Wafix PVC Bend 15° GY 160 SN4 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]

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Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.18	0	0.01	0.19	0	0.06	0	-0.09	0.16
ADPE	kg Sb-eq	1.51E-3	5.90E-7	2.48E-6	1.51E-3	5.33E-7	4.68E-6	5.94E-9	-1.80E-5	1.50E-3
ADPF	kg Sb-eq	1.98E-2	1.70E-4	4.26E-4	2.04E-2	1.50E-4	1.62E-3	8.23E-6	-1.07E-2	1.15E-2
GWP	kg CO2-eq	1.61E+0	2.31E-2	8.09E-2	1.72E+0	2.04E-2	5.76E-1	5.82E-3	-9.07E-1	1.41E+0
ODP	kg CFC-11-eq	8.36E-7	4.09E-9	6.40E-9	8.47E-7	3.79E-9	6.54E-8	1.96E-10	-4.30E-7	4.86E-7
POCP	kg ethene-eq	9.84E-4	1.39E-5	3.51E-5	1.03E-3	1.23E-5	1.30E-4	1.49E-6	-4.81E-4	6.97E-4
AP	kg SO2-eq	6.43E-3	1.01E-4	3.48E-4	6.88E-3	8.79E-5	9.40E-4	4.43E-6	-3.08E-3	4.84E-3
EP	kg PO4 3--eq	8.26E-4	1.99E-5	4.47E-5	8.91E-4	1.75E-5	1.44E-4	1.86E-6	-4.21E-4	6.34E-4
HTP	kg 1,4-DB-eq	6.12E-1	9.72E-3	3.76E-2	6.60E-1	8.73E-3	2.50E-1	4.76E-4	-2.86E-1	6.33E-1
FAETP	kg 1,4-DB-eq	1.88E-2	2.84E-4	1.28E-3	2.04E-2	2.56E-4	3.87E-3	1.76E-4	-8.36E-3	1.63E-2
MAETP	kg 1,4-DB-eq	4.34E+1	1.02E+0	5.06E+0	4.95E+1	9.14E-1	1.31E+1	2.05E-1	-1.85E+1	4.51E+1
TETP	kg 1,4-DB-eq	4.43E-3	3.43E-5	2.79E-3	7.26E-3	3.09E-5	8.81E-4	1.54E-6	-2.78E-3	5.39E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.67E+0	2.33E-2	9.26E-2	1.78E+0	2.06E-2	6.21E-1	6.79E-3	-8.40E-1	1.59E+0
GWP-f	kg CO2 eq	1.65E+0	2.33E-2	7.11E-2	1.75E+0	2.06E-2	5.80E-1	6.79E-3	-9.27E-1	1.43E+0
GWP-b	kg CO2 eq	1.46E-2	1.07E-5	1.47E-2	2.93E-2	1.25E-5	4.04E-2	8.29E-6	8.78E-2	1.58E-1
GWP-luluc	kg CO2 eq	1.86E-3	8.53E-6	6.75E-3	8.62E-3	7.29E-6	2.48E-4	1.71E-7	-1.20E-3	7.68E-3
ODP	kg CFC11 eq	8.28E-7	5.14E-9	7.52E-9	8.40E-7	4.74E-9	6.75E-8	2.44E-10	-4.26E-7	4.87E-7
AP	mol H+ eq	7.83E-3	1.35E-4	4.34E-4	8.40E-3	1.17E-4	1.18E-3	5.93E-6	-3.73E-3	5.98E-3
EP-fw	kg P eq	7.68E-5	2.35E-7	1.25E-6	7.83E-5	1.69E-7	8.27E-6	7.76E-9	-3.93E-5	4.74E-5
EP-m	kg N eq	1.40E-3	4.76E-5	1.02E-4	1.55E-3	4.20E-5	2.92E-4	3.92E-6	-6.70E-4	1.22E-3
EP-T	mol N eq	1.51E-2	5.24E-4	1.13E-3	1.68E-2	4.62E-4	3.22E-3	2.37E-5	-7.23E-3	1.33E-2
POCP	kg NMVOC eq	4.99E-3	1.50E-4	3.21E-4	5.46E-3	1.32E-4	9.66E-4	8.20E-6	-2.43E-3	4.14E-3
ADP-mm	kg Sb eq	1.51E-3	5.90E-7	2.48E-6	1.51E-3	5.33E-7	4.68E-6	5.94E-9	-1.80E-5	1.50E-3
ADP-f	MJ	4.22E+1	3.51E-1	7.95E-1	4.34E+1	3.16E-1	3.21E+0	1.78E-2	-2.26E+1	2.43E+1
WDP	m3 depriv.	2.56E+0	1.26E-3	6.15E-1	3.18E+0	9.70E-4	1.23E-1	1.13E-4	-1.36E+0	1.94E+0
PM	disease inc.	5.60E-8	2.09E-9	5.36E-9	6.35E-8	1.86E-9	1.48E-8	1.23E-10	-2.99E-8	5.03E-8
IR	kBq U-235 eq	9.34E-2	1.47E-3	1.26E-3	9.61E-2	1.38E-3	1.13E-2	8.20E-5	-4.51E-2	6.38E-2
ETP-fw	CTUe	4.97E+1	3.13E-1	1.85E+0	5.18E+1	2.57E-1	2.38E+1	2.62E-1	-1.88E+1	5.73E+1
HTP-c	CTUh	1.29E-9	1.02E-11	6.39E-11	1.37E-9	9.13E-12	3.60E-10	4.88E-13	-5.02E-10	1.24E-9
HTP-nc	CTUh	4.23E-8	3.42E-10	2.00E-9	4.47E-8	3.06E-10	8.45E-9	5.08E-11	-1.73E-8	3.62E-8
SQP	Pt	9.05E+0	3.05E-1	5.95E-2	9.41E+0	2.70E-1	1.99E+0	4.56E-2	-1.90E+1	-7.28E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.75E+0	4.39E-3	3.87E+0	6.62E+0	4.53E-3	2.27E-1	6.71E-4	-3.94E+0	2.92E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.75E+0	4.39E-3	3.87E+0	6.62E+0	4.53E-3	2.27E-1	6.71E-4	-3.94E+0	2.92E+0
PENRE	MJ	4.53E+1	3.73E-1	8.60E-1	4.65E+1	3.35E-1	3.41E+0	1.89E-2	-2.43E+1	2.59E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.53E+1	3.73E-1	8.60E-1	4.65E+1	3.35E-1	3.41E+0	1.89E-2	-2.43E+1	2.59E+1
PET	MJ	4.80E+1	3.77E-1	4.73E+0	5.31E+1	3.40E-1	3.64E+0	1.96E-2	-2.83E+1	2.88E+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	2.98E-2	4.28E-5	1.45E-2	4.44E-2	3.58E-5	3.40E-3	2.18E-5	-1.64E-2	3.14E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.15E-4	8.89E-7	8.45E-7	2.16E-4	8.08E-7	5.27E-6	2.17E-8	-1.82E-5	2.04E-4
NHWD	kg	1.66E-1	2.23E-2	1.30E-3	1.90E-1	1.96E-2	1.18E-1	7.83E-2	-7.24E-2	3.33E-1
RWD	kg	8.40E-5	2.30E-6	1.57E-6	8.78E-5	2.15E-6	1.22E-5	1.16E-7	-4.02E-5	6.21E-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



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