

Environmental Profile

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

Ecochain v3.5.80



Product: 3001307 - Wafix PVC Bend 88° 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	0.29	0	0.02	0.31	0	0.09	0	-0.15	0.26
ADPE	kg Sb-eq	2.39E-3	9.49E-7	3.94E-6	2.39E-3	8.59E-7	7.44E-6	9.58E-9	-2.86E-5	2.37E-3
ADPF	kg Sb-eq	3.22E-2	2.73E-4	6.77E-4	3.31E-2	2.42E-4	2.58E-3	1.33E-5	-1.74E-2	1.86E-2
GWP	kg CO2-eq	2.59E+0	3.71E-2	1.28E-1	2.76E+0	3.30E-2	9.30E-1	9.47E-3	-1.46E+0	2.27E+0
ODP	kg CFC-11-eq	1.32E-6	6.59E-9	1.02E-8	1.34E-6	6.11E-9	1.03E-7	3.17E-10	-6.84E-7	7.66E-7
POCP	kg ethene-eq	1.61E-3	2.24E-5	5.58E-5	1.69E-3	1.98E-5	2.08E-4	2.42E-6	-7.73E-4	1.14E-3
AP	kg SO2-eq	1.03E-2	1.63E-4	5.52E-4	1.10E-2	1.42E-4	1.50E-3	7.14E-6	-4.89E-3	7.79E-3
EP	kg PO4 3--eq	1.31E-3	3.21E-5	7.10E-5	1.42E-3	2.83E-5	2.29E-4	3.04E-6	-6.58E-4	1.02E-3
HTP	kg 1,4-DB-eq	9.77E-1	1.56E-2	5.97E-2	1.05E+0	1.41E-2	4.00E-1	7.72E-4	-4.54E-1	1.01E+0
FAETP	kg 1,4-DB-eq	2.95E-2	4.56E-4	2.04E-3	3.20E-2	4.13E-4	6.21E-3	2.96E-4	-1.29E-2	2.60E-2
MAETP	kg 1,4-DB-eq	6.92E+1	1.64E+0	8.03E+0	7.89E+1	1.47E+0	2.08E+1	3.43E-1	-2.93E+1	7.21E+1
TETP	kg 1,4-DB-eq	6.99E-3	5.53E-5	4.44E-3	1.15E-2	4.99E-5	1.41E-3	2.47E-6	-4.29E-3	8.65E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.68E+0	3.75E-2	1.47E-1	2.86E+0	3.32E-2	9.95E-1	1.11E-2	-1.37E+0	2.53E+0
GWP-f	kg CO2 eq	2.65E+0	3.75E-2	1.13E-1	2.80E+0	3.32E-2	9.36E-1	1.10E-2	-1.49E+0	2.29E+0
GWP-b	kg CO2 eq	2.26E-2	1.73E-5	2.33E-2	4.59E-2	2.02E-5	5.78E-2	1.34E-5	1.25E-1	2.29E-1
GWP-luluc	kg CO2 eq	2.89E-3	1.37E-5	1.07E-2	1.36E-2	1.18E-5	3.95E-4	2.76E-7	-1.81E-3	1.22E-2
ODP	kg CFC11 eq	1.31E-6	8.27E-9	1.19E-8	1.33E-6	7.65E-9	1.07E-7	3.93E-10	-6.78E-7	7.68E-7
AP	mol H+ eq	1.26E-2	2.17E-4	6.89E-4	1.35E-2	1.89E-4	1.88E-3	9.56E-6	-5.92E-3	9.62E-3
EP-fw	kg P eq	1.22E-4	3.78E-7	1.98E-6	1.24E-4	2.73E-7	1.32E-5	1.25E-8	-6.15E-5	7.61E-5
EP-m	kg N eq	2.23E-3	7.65E-5	1.63E-4	2.47E-3	6.77E-5	4.65E-4	6.41E-6	-1.06E-3	1.95E-3
EP-T	mol N eq	2.41E-2	8.44E-4	1.79E-3	2.68E-2	7.46E-4	5.13E-3	3.82E-5	-1.14E-2	2.12E-2
POCP	kg NMVOC eq	8.05E-3	2.41E-4	5.11E-4	8.80E-3	2.13E-4	1.54E-3	1.33E-5	-3.87E-3	6.69E-3
ADP-mm	kg Sb eq	2.39E-3	9.49E-7	3.94E-6	2.39E-3	8.59E-7	7.44E-6	9.58E-9	-2.86E-5	2.37E-3
ADP-f	MJ	6.85E+1	5.65E-1	1.26E+0	7.03E+1	5.10E-1	5.12E+0	2.87E-2	-3.65E+1	3.94E+1
WDP	m3 depriv.	4.08E+0	2.02E-3	9.77E-1	5.06E+0	1.56E-3	1.96E-1	1.81E-4	-2.16E+0	3.10E+0
PM	disease inc.	9.00E-8	3.36E-9	8.51E-9	1.02E-7	3.00E-9	2.37E-8	1.98E-10	-4.68E-8	8.20E-8
IR	kBq U-235 eq	1.50E-1	2.37E-3	2.01E-3	1.54E-1	2.23E-3	1.80E-2	1.32E-4	-7.12E-2	1.04E-1
ETP-fw	CTUe	7.74E+1	5.04E-1	2.93E+0	8.08E+1	4.14E-1	3.75E+1	4.13E-1	-2.89E+1	9.03E+1
HTP-c	CTUh	2.05E-9	1.63E-11	1.02E-10	2.17E-9	1.47E-11	5.74E-10	7.86E-13	-7.93E-10	1.97E-9
HTP-nc	CTUh	6.71E-8	5.51E-10	3.17E-9	7.08E-8	4.94E-10	1.34E-8	8.05E-11	-2.73E-8	5.75E-8
SQP	Pt	1.39E+1	4.90E-1	9.44E-2	1.45E+1	4.36E-1	3.19E+0	7.36E-2	-2.76E+1	-9.39E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.28E+0	7.07E-3	6.14E+0	1.04E+1	7.32E-3	3.62E-1	1.09E-3	-5.80E+0	5.00E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.28E+0	7.07E-3	6.14E+0	1.04E+1	7.32E-3	3.62E-1	1.09E-3	-5.80E+0	5.00E+0
PENRE	MJ	7.34E+1	6.00E-1	1.37E+0	7.54E+1	5.41E-1	5.45E+0	3.05E-2	-3.93E+1	4.21E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.34E+1	6.00E-1	1.37E+0	7.54E+1	5.41E-1	5.45E+0	3.05E-2	-3.93E+1	4.21E+1
PET	MJ	7.77E+1	6.07E-1	7.51E+0	8.58E+1	5.49E-1	5.81E+0	3.16E-2	-4.51E+1	4.71E+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	4.76E-2	6.88E-5	2.31E-2	7.08E-2	5.77E-5	5.40E-3	3.53E-5	-2.58E-2	5.05E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.39E-4	1.43E-6	1.34E-6	3.41E-4	1.30E-6	8.40E-6	3.49E-8	-2.89E-5	3.22E-4
NHWD	kg	2.63E-1	3.58E-2	2.07E-3	3.00E-1	3.16E-2	1.90E-1	1.26E-1	-1.15E-1	5.33E-1
RWD	kg	1.36E-4	3.71E-6	2.49E-6	1.42E-4	3.47E-6	1.95E-5	1.87E-7	-6.34E-5	1.02E-4
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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