

Environmental Profile

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

Ecochain v3.5.80



Product: 3001289 - Wafix PVC Bend 88° 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	0.3	0	0.02	0.32	0	0.1	0	-0.15	0.27
ADPE	kg Sb-eq	2.64E-3	9.79E-7	4.23E-6	2.64E-3	9.04E-7	8.03E-6	1.01E-8	-3.08E-5	2.62E-3
ADPF	kg Sb-eq	3.30E-2	2.82E-4	7.27E-4	3.40E-2	2.55E-4	2.78E-3	1.40E-5	-1.79E-2	1.91E-2
GWP	kg CO2-eq	2.71E+0	3.83E-2	1.38E-1	2.89E+0	3.47E-2	9.72E-1	9.73E-3	-1.52E+0	2.38E+0
ODP	kg CFC-11-eq	1.46E-6	6.80E-9	1.09E-8	1.48E-6	6.43E-9	1.14E-7	3.33E-10	-7.45E-7	8.54E-7
POCP	kg ethene-eq	1.61E-3	2.31E-5	5.99E-5	1.70E-3	2.08E-5	2.21E-4	2.50E-6	-7.99E-4	1.14E-3
AP	kg SO2-eq	1.08E-2	1.68E-4	5.93E-4	1.16E-2	1.49E-4	1.61E-3	7.52E-6	-5.15E-3	8.21E-3
EP	kg PO4 3--eq	1.38E-3	3.31E-5	7.62E-5	1.49E-3	2.98E-5	2.46E-4	3.08E-6	-6.93E-4	1.08E-3
HTP	kg 1,4-DB-eq	1.04E+0	1.61E-2	6.41E-2	1.12E+0	1.48E-2	4.26E-1	8.01E-4	-4.86E-1	1.08E+0
FAETP	kg 1,4-DB-eq	3.14E-2	4.71E-4	2.19E-3	3.40E-2	4.34E-4	6.53E-3	2.76E-4	-1.36E-2	2.76E-2
MAETP	kg 1,4-DB-eq	7.37E+1	1.69E+0	8.62E+0	8.40E+1	1.55E+0	2.22E+1	3.28E-1	-3.14E+1	7.67E+1
TETP	kg 1,4-DB-eq	7.59E-3	5.70E-5	4.76E-3	1.24E-2	5.26E-5	1.51E-3	2.63E-6	-4.54E-3	9.43E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.80E+0	3.87E-2	1.58E-1	3.00E+0	3.50E-2	1.04E+0	1.14E-2	-1.43E+0	2.65E+0
GWP-f	kg CO2 eq	2.77E+0	3.86E-2	1.21E-1	2.93E+0	3.50E-2	9.79E-1	1.13E-2	-1.56E+0	2.40E+0
GWP-b	kg CO2 eq	2.57E-2	1.78E-5	2.50E-2	5.08E-2	2.12E-5	5.78E-2	1.41E-5	1.24E-1	2.33E-1
GWP-luluc	kg CO2 eq	3.06E-3	1.42E-5	1.15E-2	1.46E-2	1.24E-5	4.29E-4	2.91E-7	-1.88E-3	1.31E-2
ODP	kg CFC11 eq	1.44E-6	8.53E-9	1.28E-8	1.47E-6	8.06E-9	1.18E-7	4.14E-10	-7.38E-7	8.54E-7
AP	mol H+ eq	1.32E-2	2.24E-4	7.39E-4	1.41E-2	1.99E-4	2.03E-3	1.01E-5	-6.24E-3	1.01E-2
EP-fw	kg P eq	1.31E-4	3.90E-7	2.12E-6	1.33E-4	2.88E-7	1.43E-5	1.32E-8	-6.55E-5	8.26E-5
EP-m	kg N eq	2.35E-3	7.89E-5	1.75E-4	2.60E-3	7.12E-5	4.98E-4	6.48E-6	-1.11E-3	2.06E-3
EP-T	mol N eq	2.54E-2	8.70E-4	1.93E-3	2.82E-2	7.85E-4	5.49E-3	4.02E-5	-1.20E-2	2.25E-2
POCP	kg NMVOC eq	8.28E-3	2.48E-4	5.48E-4	9.08E-3	2.24E-4	1.64E-3	1.39E-5	-4.03E-3	6.93E-3
ADP-mm	kg Sb eq	2.64E-3	9.79E-7	4.23E-6	2.64E-3	9.04E-7	8.03E-6	1.01E-8	-3.08E-5	2.62E-3
ADP-f	MJ	7.02E+1	5.83E-1	1.36E+0	7.22E+1	5.37E-1	5.50E+0	3.02E-2	-3.78E+1	4.04E+1
WDP	m3 depriv.	4.43E+0	2.08E-3	1.05E+0	5.48E+0	1.65E-3	2.15E-1	1.93E-4	-2.31E+0	3.39E+0
PM	disease inc.	9.14E-8	3.47E-9	9.13E-9	1.04E-7	3.16E-9	2.53E-8	2.08E-10	-4.85E-8	8.42E-8
IR	kBq U-235 eq	1.57E-1	2.44E-3	2.16E-3	1.62E-1	2.35E-3	1.94E-2	1.39E-4	-7.62E-2	1.08E-1
ETP-fw	CTUe	8.26E+1	5.19E-1	3.15E+0	8.62E+1	4.36E-1	4.17E+1	4.60E-1	-3.04E+1	9.85E+1
HTP-c	CTUh	2.23E-9	1.68E-11	1.09E-10	2.35E-9	1.55E-11	6.13E-10	8.31E-13	-8.50E-10	2.13E-9
HTP-nc	CTUh	7.33E-8	5.68E-10	3.40E-9	7.72E-8	5.19E-10	1.46E-8	8.88E-11	-2.93E-8	6.31E-8
SQP	Pt	1.44E+1	5.05E-1	1.01E-1	1.50E+1	4.59E-1	3.38E+0	7.75E-2	-2.79E+1	-8.98E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.50E+0	7.29E-3	6.59E+0	1.11E+1	7.70E-3	3.94E-1	1.14E-3	-5.90E+0	5.60E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.50E+0	7.29E-3	6.59E+0	1.11E+1	7.70E-3	3.94E-1	1.14E-3	-5.90E+0	5.60E+0
PENRE	MJ	7.53E+1	6.19E-1	1.47E+0	7.74E+1	5.70E-1	5.85E+0	3.21E-2	-4.07E+1	4.32E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.53E+1	6.19E-1	1.47E+0	7.74E+1	5.70E-1	5.85E+0	3.21E-2	-4.07E+1	4.32E+1
PET	MJ	7.98E+1	6.26E-1	8.06E+0	8.85E+1	5.77E-1	6.24E+0	3.32E-2	-4.66E+1	4.88E+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	5.06E-2	7.10E-5	2.48E-2	7.54E-2	6.07E-5	5.90E-3	3.71E-5	-2.72E-2	5.42E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.77E-4	1.48E-6	1.44E-6	3.80E-4	1.37E-6	9.00E-6	3.68E-8	-3.10E-5	3.59E-4
NHWD	kg	2.82E-1	3.70E-2	2.22E-3	3.21E-1	3.33E-2	2.01E-1	1.33E-1	-1.23E-1	5.65E-1
RWD	kg	1.39E-4	3.83E-6	2.67E-6	1.46E-4	3.65E-6	2.09E-5	1.97E-7	-6.77E-5	1.03E-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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