

Environmental Profile

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

Ecochain v3.5.80



Product: 3024560 - WfxPVC Bend 45° 160 GY/GD SN8 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	0.23	0	0.01	0.25	0	0.08	0	-0.12	0.21
ADPE	kg Sb-eq	1.98E-3	7.70E-7	3.37E-6	1.98E-3	6.99E-7	6.13E-6	7.79E-9	-2.35E-5	1.97E-3
ADPF	kg Sb-eq	2.59E-2	2.22E-4	5.79E-4	2.68E-2	1.97E-4	2.12E-3	1.08E-5	-1.40E-2	1.50E-2
GWP	kg CO2-eq	2.11E+0	3.01E-2	1.10E-1	2.25E+0	2.68E-2	7.55E-1	7.63E-3	-1.19E+0	1.85E+0
ODP	kg CFC-11-eq	1.10E-6	5.35E-9	8.68E-9	1.11E-6	4.97E-9	8.58E-8	2.58E-10	-5.65E-7	6.38E-7
POCP	kg ethene-eq	1.29E-3	1.82E-5	4.77E-5	1.35E-3	1.61E-5	1.70E-4	1.95E-6	-6.28E-4	9.14E-4
AP	kg SO2-eq	8.42E-3	1.33E-4	4.72E-4	9.02E-3	1.15E-4	1.23E-3	5.81E-6	-4.01E-3	6.36E-3
EP	kg PO4 3--eq	1.08E-3	2.60E-5	6.07E-5	1.16E-3	2.30E-5	1.89E-4	2.44E-6	-5.45E-4	8.33E-4
HTP	kg 1,4-DB-eq	8.02E-1	1.27E-2	5.10E-2	8.66E-1	1.15E-2	3.28E-1	6.24E-4	-3.74E-1	8.31E-1
FAETP	kg 1,4-DB-eq	2.44E-2	3.70E-4	1.74E-3	2.65E-2	3.36E-4	5.06E-3	2.30E-4	-1.08E-2	2.14E-2
MAETP	kg 1,4-DB-eq	5.68E+1	1.33E+0	6.86E+0	6.50E+1	1.20E+0	1.71E+1	2.69E-1	-2.42E+1	5.93E+1
TETP	kg 1,4-DB-eq	5.79E-3	4.49E-5	3.79E-3	9.63E-3	4.06E-5	1.16E-3	2.02E-6	-3.59E-3	7.24E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.18E+0	3.04E-2	1.26E-1	2.34E+0	2.70E-2	8.11E-1	8.90E-3	-1.11E+0	2.08E+0
GWP-f	kg CO2 eq	2.16E+0	3.04E-2	9.66E-2	2.29E+0	2.70E-2	7.60E-1	8.90E-3	-1.21E+0	1.87E+0
GWP-b	kg CO2 eq	1.91E-2	1.40E-5	1.99E-2	3.90E-2	1.64E-5	5.02E-2	1.09E-5	1.09E-1	1.98E-1
GWP-luluc	kg CO2 eq	2.40E-3	1.11E-5	9.17E-3	1.16E-2	9.56E-6	3.26E-4	2.25E-7	-1.53E-3	1.04E-2
ODP	kg CFC11 eq	1.09E-6	6.71E-9	1.02E-8	1.10E-6	6.22E-9	8.86E-8	3.20E-10	-5.59E-7	6.39E-7
AP	mol H+ eq	1.02E-2	1.76E-4	5.89E-4	1.10E-2	1.54E-4	1.55E-3	7.78E-6	-4.86E-3	7.86E-3
EP-fw	kg P eq	1.00E-4	3.07E-7	1.69E-6	1.02E-4	2.22E-7	1.09E-5	1.02E-8	-5.10E-5	6.25E-5
EP-m	kg N eq	1.83E-3	6.21E-5	1.39E-4	2.03E-3	5.50E-5	3.83E-4	5.13E-6	-8.72E-4	1.60E-3
EP-T	mol N eq	1.98E-2	6.85E-4	1.53E-3	2.20E-2	6.07E-4	4.21E-3	3.10E-5	-9.40E-3	1.74E-2
POCP	kg NMVOC eq	6.52E-3	1.96E-4	4.36E-4	7.15E-3	1.73E-4	1.26E-3	1.08E-5	-3.16E-3	5.44E-3
ADP-mm	kg Sb eq	1.98E-3	7.70E-7	3.37E-6	1.98E-3	6.99E-7	6.13E-6	7.79E-9	-2.35E-5	1.97E-3
ADP-f	MJ	5.53E+1	4.58E-1	1.08E+0	5.68E+1	4.15E-1	4.20E+0	2.34E-2	-2.96E+1	3.18E+1
WDP	m3 depriv.	3.36E+0	1.64E-3	8.35E-1	4.20E+0	1.27E-3	1.62E-1	1.48E-4	-1.78E+0	2.58E+0
PM	disease inc.	7.30E-8	2.73E-9	7.27E-9	8.30E-8	2.44E-9	1.94E-8	1.61E-10	-3.87E-8	6.63E-8
IR	kBq U-235 eq	1.22E-1	1.92E-3	1.72E-3	1.26E-1	1.81E-3	1.48E-2	1.08E-4	-5.89E-2	8.38E-2
ETP-fw	CTUe	6.44E+1	4.09E-1	2.51E+0	6.73E+1	3.37E-1	3.12E+1	3.44E-1	-2.42E+1	7.50E+1
HTP-c	CTUh	1.70E-9	1.33E-11	8.68E-11	1.80E-9	1.20E-11	4.71E-10	6.40E-13	-6.55E-10	1.63E-9
HTP-nc	CTUh	5.55E-8	4.47E-10	2.71E-9	5.87E-8	4.01E-10	1.11E-8	6.67E-11	-2.26E-8	4.76E-8
SQP	Pt	1.16E+1	3.98E-1	8.07E-2	1.21E+1	3.55E-1	2.60E+0	5.98E-2	-2.38E+1	-8.64E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.56E+0	5.74E-3	5.25E+0	8.81E+0	5.95E-3	2.98E-1	8.81E-4	-4.96E+0	4.16E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.56E+0	5.74E-3	5.25E+0	8.81E+0	5.95E-3	2.98E-1	8.81E-4	-4.96E+0	4.16E+0
PENRE	MJ	5.93E+1	4.87E-1	1.17E+0	6.09E+1	4.40E-1	4.47E+0	2.48E-2	-3.18E+1	3.40E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.93E+1	4.87E-1	1.17E+0	6.09E+1	4.40E-1	4.47E+0	2.48E-2	-3.18E+1	3.40E+1
PET	MJ	6.28E+1	4.92E-1	6.42E+0	6.97E+1	4.46E-1	4.77E+0	2.57E-2	-3.68E+1	3.82E+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	3.90E-2	5.58E-5	1.98E-2	5.88E-2	4.69E-5	4.46E-3	2.87E-5	-2.13E-2	4.20E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.82E-4	1.16E-6	1.15E-6	2.84E-4	1.06E-6	6.90E-6	2.84E-8	-2.38E-5	2.68E-4
NHWD	kg	2.17E-1	2.91E-2	1.77E-3	2.48E-1	2.57E-2	1.55E-1	1.03E-1	-9.45E-2	4.37E-1
RWD	kg	1.10E-4	3.01E-6	2.12E-6	1.15E-4	2.82E-6	1.60E-5	1.52E-7	-5.24E-5	8.15E-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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