

Environmental Profile

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

Ecochain v3.5.80



Product: 3052473 - WfxPVC Bend 88° BR/GD 125 SN8 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	0.14	0	0.01	0.15	0	0.04	0	-0.07	0.12
ADPE	kg Sb-eq	1.17E-3	4.43E-7	2.17E-6	1.17E-3	4.08E-7	3.58E-6	4.55E-9	-1.38E-5	1.16E-3
ADPF	kg Sb-eq	1.50E-2	1.27E-4	3.73E-4	1.55E-2	1.15E-4	1.24E-3	6.31E-6	-8.12E-3	8.72E-3
GWP	kg CO2-eq	1.22E+0	1.73E-2	7.08E-2	1.31E+0	1.56E-2	4.39E-1	4.43E-3	-6.86E-1	1.08E+0
ODP	kg CFC-11-eq	6.49E-7	3.07E-9	5.60E-9	6.57E-7	2.90E-9	5.06E-8	1.50E-10	-3.33E-7	3.78E-7
POCP	kg ethene-eq	7.40E-4	1.05E-5	3.08E-5	7.81E-4	9.39E-6	9.91E-5	1.14E-6	-3.61E-4	5.30E-4
AP	kg SO2-eq	4.89E-3	7.62E-5	3.05E-4	5.27E-3	6.73E-5	7.21E-4	3.39E-6	-2.31E-3	3.75E-3
EP	kg PO4 3--eq	6.21E-4	1.50E-5	3.91E-5	6.75E-4	1.34E-5	1.10E-4	1.41E-6	-3.09E-4	4.91E-4
HTP	kg 1,4-DB-eq	4.68E-1	7.29E-3	3.29E-2	5.09E-1	6.69E-3	1.91E-1	3.63E-4	-2.17E-1	4.90E-1
FAETP	kg 1,4-DB-eq	1.40E-2	2.13E-4	1.12E-3	1.53E-2	1.96E-4	2.94E-3	1.29E-4	-6.04E-3	1.26E-2
MAETP	kg 1,4-DB-eq	3.31E+1	7.66E-1	4.43E+0	3.83E+1	7.00E-1	9.92E+0	1.52E-1	-1.40E+1	3.51E+1
TETP	kg 1,4-DB-eq	3.38E-3	2.58E-5	2.45E-3	5.85E-3	2.37E-5	6.77E-4	1.18E-6	-2.01E-3	4.54E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.26E+0	1.75E-2	8.11E-2	1.36E+0	1.58E-2	4.67E-1	5.16E-3	-6.49E-1	1.20E+0
GWP-f	kg CO2 eq	1.25E+0	1.75E-2	6.23E-2	1.33E+0	1.58E-2	4.42E-1	5.16E-3	-7.01E-1	1.09E+0
GWP-b	kg CO2 eq	1.12E-2	8.06E-6	1.29E-2	2.41E-2	9.57E-6	2.49E-2	6.35E-6	5.33E-2	1.02E-1
GWP-luluc	kg CO2 eq	1.36E-3	6.40E-6	5.91E-3	7.28E-3	5.58E-6	1.91E-4	1.31E-7	-8.27E-4	6.65E-3
ODP	kg CFC11 eq	6.41E-7	3.86E-9	6.58E-9	6.52E-7	3.63E-9	5.22E-8	1.87E-10	-3.29E-7	3.79E-7
AP	mol H+ eq	5.94E-3	1.01E-4	3.80E-4	6.43E-3	8.98E-5	9.05E-4	4.54E-6	-2.80E-3	4.63E-3
EP-fw	kg P eq	5.85E-5	1.76E-7	1.09E-6	5.97E-5	1.30E-7	6.39E-6	5.94E-9	-2.91E-5	3.71E-5
EP-m	kg N eq	1.06E-3	3.57E-5	8.97E-5	1.18E-3	3.21E-5	2.23E-4	2.97E-6	-4.99E-4	9.40E-4
EP-T	mol N eq	1.14E-2	3.94E-4	9.89E-4	1.28E-2	3.54E-4	2.45E-3	1.81E-5	-5.37E-3	1.03E-2
POCP	kg NMVOC eq	3.76E-3	1.12E-4	2.82E-4	4.15E-3	1.01E-4	7.36E-4	6.27E-6	-1.81E-3	3.18E-3
ADP-mm	kg Sb eq	1.17E-3	4.43E-7	2.17E-6	1.17E-3	4.08E-7	3.58E-6	4.55E-9	-1.38E-5	1.16E-3
ADP-f	MJ	3.19E+1	2.63E-1	6.96E-1	3.29E+1	2.42E-1	2.46E+0	1.36E-2	-1.71E+1	1.85E+1
WDP	m3 depriv.	1.98E+0	9.42E-4	5.39E-1	2.52E+0	7.43E-4	9.55E-2	8.70E-5	-1.03E+0	1.58E+0
PM	disease inc.	4.16E-8	1.57E-9	4.69E-9	4.79E-8	1.42E-9	1.13E-8	9.39E-11	-2.16E-8	3.91E-8
IR	kBq U-235 eq	7.11E-2	1.10E-3	1.11E-3	7.33E-2	1.06E-3	8.66E-3	6.28E-5	-3.40E-2	4.91E-2
ETP-fw	CTUe	3.67E+1	2.35E-1	1.62E+0	3.85E+1	1.97E-1	1.85E+1	2.04E-1	-1.34E+1	4.39E+1
HTP-c	CTUh	9.97E-10	7.62E-12	5.60E-11	1.06E-9	6.99E-12	2.75E-10	3.75E-13	-3.79E-10	9.63E-10
HTP-nc	CTUh	3.26E-8	2.57E-10	1.75E-9	3.46E-8	2.34E-10	6.52E-9	3.94E-11	-1.31E-8	2.84E-8
SQP	Pt	6.40E+0	2.29E-1	5.21E-2	6.68E+0	2.07E-1	1.52E+0	3.49E-2	-1.21E+1	-3.62E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.00E+0	3.30E-3	3.39E+0	5.39E+0	3.47E-3	1.76E-1	5.13E-4	-2.57E+0	3.00E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.00E+0	3.30E-3	3.39E+0	5.39E+0	3.47E-3	1.76E-1	5.13E-4	-2.57E+0	3.00E+0
PENRE	MJ	3.42E+1	2.80E-1	7.53E-1	3.52E+1	2.57E-1	2.62E+0	1.45E-2	-1.84E+1	1.97E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.42E+1	2.80E-1	7.53E-1	3.52E+1	2.57E-1	2.62E+0	1.45E-2	-1.84E+1	1.97E+1
PET	MJ	3.62E+1	2.83E-1	4.14E+0	4.06E+1	2.60E-1	2.79E+0	1.50E-2	-2.10E+1	2.27E+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	2.27E-2	3.21E-5	1.27E-2	3.55E-2	2.74E-5	2.63E-3	1.67E-5	-1.21E-2	2.60E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.67E-4	6.68E-7	7.40E-7	1.68E-4	6.19E-7	4.02E-6	1.66E-8	-1.38E-5	1.59E-4
NHWD	kg	1.27E-1	1.67E-2	1.14E-3	1.44E-1	1.50E-2	9.02E-2	6.00E-2	-5.48E-2	2.55E-1
RWD	kg	6.35E-5	1.73E-6	1.37E-6	6.66E-5	1.65E-6	9.34E-6	8.88E-8	-3.02E-5	4.75E-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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