

Environmental Profile

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

Ecochain v3.5.80



Product: 3024588 - WfxPVC Bend 15° BR/GD 160 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	0.18	0	0.01	0.19	0	0.06	0	-0.09	0.16
ADPE	kg Sb-eq	1.51E-3	5.72E-7	2.49E-6	1.51E-3	5.20E-7	4.64E-6	5.81E-9	-1.78E-5	1.50E-3
ADPF	kg Sb-eq	1.91E-2	1.65E-4	4.28E-4	1.97E-2	1.46E-4	1.60E-3	8.05E-6	-1.04E-2	1.11E-2
GWP	kg CO2-eq	1.57E+0	2.24E-2	8.13E-2	1.68E+0	1.99E-2	5.61E-1	5.61E-3	-8.85E-1	1.38E+0
ODP	kg CFC-11-eq	8.38E-7	3.97E-9	6.43E-9	8.48E-7	3.70E-9	6.55E-8	1.92E-10	-4.28E-7	4.89E-7
POCP	kg ethene-eq	9.40E-4	1.35E-5	3.53E-5	9.89E-4	1.20E-5	1.28E-4	1.44E-6	-4.67E-4	6.64E-4
AP	kg SO2-eq	6.29E-3	9.84E-5	3.50E-4	6.74E-3	8.59E-5	9.32E-4	4.33E-6	-3.02E-3	4.74E-3
EP	kg PO4 3--eq	8.12E-4	1.93E-5	4.49E-5	8.76E-4	1.71E-5	1.42E-4	1.78E-6	-4.15E-4	6.23E-4
HTP	kg 1,4-DB-eq	6.04E-1	9.42E-3	3.78E-2	6.51E-1	8.53E-3	2.46E-1	4.62E-4	-2.83E-1	6.22E-1
FAETP	kg 1,4-DB-eq	1.86E-2	2.75E-4	1.29E-3	2.02E-2	2.50E-4	3.79E-3	1.61E-4	-8.28E-3	1.61E-2
MAETP	kg 1,4-DB-eq	4.28E+1	9.90E-1	5.08E+0	4.88E+1	8.93E-1	1.29E+1	1.91E-1	-1.83E+1	4.45E+1
TETP	kg 1,4-DB-eq	4.41E-3	3.33E-5	2.81E-3	7.25E-3	3.02E-5	8.69E-4	1.51E-6	-2.76E-3	5.39E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.63E+0	2.26E-2	9.31E-2	1.74E+0	2.01E-2	6.06E-1	6.55E-3	-8.18E-1	1.56E+0
GWP-f	kg CO2 eq	1.61E+0	2.26E-2	7.15E-2	1.70E+0	2.01E-2	5.65E-1	6.55E-3	-9.05E-1	1.39E+0
GWP-b	kg CO2 eq	1.49E-2	1.04E-5	1.48E-2	2.97E-2	1.22E-5	4.02E-2	8.09E-6	8.74E-2	1.57E-1
GWP-luluc	kg CO2 eq	1.84E-3	8.27E-6	6.79E-3	8.64E-3	7.12E-6	2.46E-4	1.67E-7	-1.19E-3	7.70E-3
ODP	kg CFC11 eq	8.28E-7	4.98E-9	7.56E-9	8.41E-7	4.63E-9	6.76E-8	2.38E-10	-4.24E-7	4.89E-7
AP	mol H+ eq	7.67E-3	1.31E-4	4.36E-4	8.23E-3	1.15E-4	1.17E-3	5.79E-6	-3.66E-3	5.86E-3
EP-fw	kg P eq	7.61E-5	2.28E-7	1.25E-6	7.76E-5	1.65E-7	8.23E-6	7.58E-9	-3.90E-5	4.70E-5
EP-m	kg N eq	1.38E-3	4.61E-5	1.03E-4	1.53E-3	4.10E-5	2.89E-4	3.75E-6	-6.58E-4	1.20E-3
EP-T	mol N eq	1.49E-2	5.09E-4	1.14E-3	1.65E-2	4.52E-4	3.18E-3	2.31E-5	-7.10E-3	1.31E-2
POCP	kg NMVOC eq	4.83E-3	1.45E-4	3.23E-4	5.30E-3	1.29E-4	9.54E-4	7.99E-6	-2.37E-3	4.02E-3
ADP-mm	kg Sb eq	1.51E-3	5.72E-7	2.49E-6	1.51E-3	5.20E-7	4.64E-6	5.81E-9	-1.78E-5	1.50E-3
ADP-f	MJ	4.07E+1	3.40E-1	7.99E-1	4.19E+1	3.09E-1	3.17E+0	1.74E-2	-2.19E+1	2.34E+1
WDP	m3 depriv.	2.54E+0	1.22E-3	6.19E-1	3.16E+0	9.47E-4	1.23E-1	1.11E-4	-1.35E+0	1.94E+0
PM	disease inc.	5.40E-8	2.03E-9	5.38E-9	6.15E-8	1.82E-9	1.46E-8	1.20E-10	-2.94E-8	4.86E-8
IR	kBq U-235 eq	9.13E-2	1.43E-3	1.27E-3	9.40E-2	1.35E-3	1.12E-2	8.01E-5	-4.47E-2	6.19E-2
ETP-fw	CTUe	4.94E+1	3.04E-1	1.86E+0	5.15E+1	2.51E-1	2.39E+1	2.63E-1	-1.87E+1	5.72E+1
HTP-c	CTUh	1.29E-9	9.85E-12	6.43E-11	1.36E-9	8.92E-12	3.55E-10	4.78E-13	-4.97E-10	1.23E-9
HTP-nc	CTUh	4.22E-8	3.32E-10	2.01E-9	4.45E-8	2.99E-10	8.41E-9	5.08E-11	-1.71E-8	3.61E-8
SQP	Pt	8.90E+0	2.95E-1	5.98E-2	9.26E+0	2.64E-1	1.95E+0	4.46E-2	-1.89E+1	-7.35E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.72E+0	4.26E-3	3.89E+0	6.61E+0	4.43E-3	2.26E-1	6.54E-4	-3.91E+0	2.93E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.72E+0	4.26E-3	3.89E+0	6.61E+0	4.43E-3	2.26E-1	6.54E-4	-3.91E+0	2.93E+0
PENRE	MJ	4.37E+1	3.61E-1	8.64E-1	4.49E+1	3.28E-1	3.37E+0	1.85E-2	-2.36E+1	2.50E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.37E+1	3.61E-1	8.64E-1	4.49E+1	3.28E-1	3.37E+0	1.85E-2	-2.36E+1	2.50E+1
PET	MJ	4.64E+1	3.66E-1	4.75E+0	5.15E+1	3.32E-1	3.60E+0	1.91E-2	-2.75E+1	2.80E+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	2.93E-2	4.15E-5	1.46E-2	4.39E-2	3.49E-5	3.38E-3	2.13E-5	-1.62E-2	3.12E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.16E-4	8.63E-7	8.49E-7	2.17E-4	7.89E-7	5.20E-6	2.12E-8	-1.80E-5	2.05E-4
NHWD	kg	1.65E-1	2.16E-2	1.31E-3	1.88E-1	1.91E-2	1.16E-1	7.65E-2	-7.17E-2	3.27E-1
RWD	kg	8.11E-5	2.24E-6	1.57E-6	8.50E-5	2.10E-6	1.21E-5	1.13E-7	-3.98E-5	5.94E-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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