

Environmental Profile

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

Ecochain v3.5.80



Product: 3024591 - WfxPVC Bend 88° 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	0.3	0	0.02	0.32	0	0.1	0	-0.15	0.27
ADPE	kg Sb-eq	2.63E-3	9.57E-7	4.19E-6	2.63E-3	8.88E-7	7.95E-6	9.91E-9	-3.05E-5	2.61E-3
ADPF	kg Sb-eq	3.21E-2	2.75E-4	7.20E-4	3.31E-2	2.50E-4	2.75E-3	1.37E-5	-1.75E-2	1.86E-2
GWP	kg CO2-eq	2.66E+0	3.75E-2	1.37E-1	2.83E+0	3.41E-2	9.53E-1	9.49E-3	-1.49E+0	2.34E+0
ODP	kg CFC-11-eq	1.46E-6	6.65E-9	1.08E-8	1.47E-6	6.31E-9	1.14E-7	3.27E-10	-7.40E-7	8.53E-7
POCP	kg ethene-eq	1.56E-3	2.26E-5	5.94E-5	1.64E-3	2.04E-5	2.18E-4	2.45E-6	-7.82E-4	1.10E-3
AP	kg SO2-eq	1.06E-2	1.65E-4	5.87E-4	1.14E-2	1.47E-4	1.60E-3	7.39E-6	-5.08E-3	8.07E-3
EP	kg PO4 3--eq	1.36E-3	3.24E-5	7.55E-5	1.47E-3	2.93E-5	2.43E-4	2.99E-6	-6.86E-4	1.06E-3
HTP	kg 1,4-DB-eq	1.03E+0	1.58E-2	6.35E-2	1.11E+0	1.46E-2	4.20E-1	7.83E-4	-4.81E-1	1.06E+0
FAETP	kg 1,4-DB-eq	3.11E-2	4.60E-4	2.17E-3	3.37E-2	4.27E-4	6.42E-3	2.60E-4	-1.35E-2	2.73E-2
MAETP	kg 1,4-DB-eq	7.28E+1	1.66E+0	8.54E+0	8.30E+1	1.52E+0	2.19E+1	3.12E-1	-3.11E+1	7.56E+1
TETP	kg 1,4-DB-eq	7.54E-3	5.57E-5	4.72E-3	1.23E-2	5.16E-5	1.49E-3	2.59E-6	-4.51E-3	9.35E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.75E+0	3.78E-2	1.56E-1	2.94E+0	3.44E-2	1.02E+0	1.11E-2	-1.40E+0	2.60E+0
GWP-f	kg CO2 eq	2.72E+0	3.78E-2	1.20E-1	2.88E+0	3.43E-2	9.59E-1	1.11E-2	-1.53E+0	2.36E+0
GWP-b	kg CO2 eq	2.59E-2	1.74E-5	2.48E-2	5.07E-2	2.08E-5	5.78E-2	1.38E-5	1.24E-1	2.33E-1
GWP-luluc	kg CO2 eq	3.03E-3	1.38E-5	1.14E-2	1.45E-2	1.21E-5	4.26E-4	2.86E-7	-1.87E-3	1.30E-2
ODP	kg CFC11 eq	1.44E-6	8.34E-9	1.27E-8	1.46E-6	7.91E-9	1.17E-7	4.06E-10	-7.32E-7	8.52E-7
AP	mol H+ eq	1.30E-2	2.19E-4	7.33E-4	1.39E-2	1.96E-4	2.01E-3	9.89E-6	-6.15E-3	9.97E-3
EP-fw	kg P eq	1.30E-4	3.81E-7	2.10E-6	1.32E-4	2.82E-7	1.42E-5	1.29E-8	-6.49E-5	8.17E-5
EP-m	kg N eq	2.32E-3	7.72E-5	1.73E-4	2.57E-3	7.00E-5	4.92E-4	6.29E-6	-1.10E-3	2.04E-3
EP-T	mol N eq	2.50E-2	8.51E-4	1.91E-3	2.77E-2	7.71E-4	5.42E-3	3.94E-5	-1.18E-2	2.21E-2
POCP	kg NMVOC eq	8.09E-3	2.43E-4	5.43E-4	8.88E-3	2.20E-4	1.62E-3	1.36E-5	-3.96E-3	6.78E-3
ADP-mm	kg Sb eq	2.63E-3	9.57E-7	4.19E-6	2.63E-3	8.88E-7	7.95E-6	9.91E-9	-3.05E-5	2.61E-3
ADP-f	MJ	6.84E+1	5.70E-1	1.34E+0	7.04E+1	5.27E-1	5.44E+0	2.97E-2	-3.69E+1	3.94E+1
WDP	m3 depriv.	4.39E+0	2.04E-3	1.04E+0	5.43E+0	1.62E-3	2.13E-1	1.91E-4	-2.28E+0	3.37E+0
PM	disease inc.	8.92E-8	3.39E-9	9.05E-9	1.02E-7	3.10E-9	2.50E-8	2.04E-10	-4.78E-8	8.21E-8
IR	kBq U-235 eq	1.55E-1	2.39E-3	2.14E-3	1.59E-1	2.30E-3	1.92E-2	1.37E-4	-7.55E-2	1.05E-1
ETP-fw	CTUe	8.20E+1	5.08E-1	3.12E+0	8.56E+1	4.28E-1	4.16E+1	4.59E-1	-3.02E+1	9.80E+1
HTP-c	CTUh	2.21E-9	1.65E-11	1.08E-10	2.34E-9	1.52E-11	6.06E-10	8.18E-13	-8.42E-10	2.12E-9
HTP-nc	CTUh	7.28E-8	5.56E-10	3.37E-9	7.67E-8	5.10E-10	1.45E-8	8.84E-11	-2.91E-8	6.28E-8
SQP	Pt	1.42E+1	4.94E-1	1.00E-1	1.48E+1	4.51E-1	3.33E+0	7.61E-2	-2.78E+1	-9.17E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.45E+0	7.13E-3	6.53E+0	1.10E+1	7.56E-3	3.91E-1	1.11E-3	-5.89E+0	5.50E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.45E+0	7.13E-3	6.53E+0	1.10E+1	7.56E-3	3.91E-1	1.11E-3	-5.89E+0	5.50E+0
PENRE	MJ	7.34E+1	6.05E-1	1.45E+0	7.55E+1	5.59E-1	5.78E+0	3.15E-2	-3.98E+1	4.21E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.34E+1	6.05E-1	1.45E+0	7.55E+1	5.59E-1	5.78E+0	3.15E-2	-3.98E+1	4.21E+1
PET	MJ	7.79E+1	6.12E-1	7.98E+0	8.65E+1	5.67E-1	6.17E+0	3.26E-2	-4.57E+1	4.76E+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	4.98E-2	6.94E-5	2.46E-2	7.45E-2	5.96E-5	5.85E-3	3.64E-5	-2.69E-2	5.35E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.76E-4	1.44E-6	1.43E-6	3.79E-4	1.35E-6	8.89E-6	3.61E-8	-3.06E-5	3.59E-4
NHWD	kg	2.79E-1	3.61E-2	2.20E-3	3.18E-1	3.27E-2	1.97E-1	1.31E-1	-1.22E-1	5.57E-1
RWD	kg	1.36E-4	3.74E-6	2.64E-6	1.42E-4	3.58E-6	2.06E-5	1.93E-7	-6.71E-5	9.98E-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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