

Environmental Profile

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

Ecochain v3.5.80



Product: 3024568 - Wfx PVC Branch 88° GY/GD 160 SN8 S/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	0.29	0	0.02	0.32	0	0.1	0	-0.15	0.27
ADPE	kg Sb-eq	2.50E-3	9.54E-7	4.78E-6	2.51E-3	8.70E-7	7.69E-6	9.71E-9	-2.95E-5	2.49E-3
ADPF	kg Sb-eq	3.21E-2	2.75E-4	8.22E-4	3.32E-2	2.45E-4	2.66E-3	1.35E-5	-1.74E-2	1.87E-2
GWP	kg CO2-eq	2.63E+0	3.74E-2	1.56E-1	2.82E+0	3.34E-2	9.38E-1	9.44E-3	-1.47E+0	2.33E+0
ODP	kg CFC-11-eq	1.39E-6	6.63E-9	1.23E-8	1.41E-6	6.19E-9	1.08E-7	3.21E-10	-7.11E-7	8.10E-7
POCP	kg ethene-eq	1.58E-3	2.25E-5	6.77E-5	1.67E-3	2.00E-5	2.13E-4	2.42E-6	-7.79E-4	1.13E-3
AP	kg SO2-eq	1.05E-2	1.64E-4	6.70E-4	1.13E-2	1.44E-4	1.55E-3	7.24E-6	-5.01E-3	8.01E-3
EP	kg PO4 3--eq	1.35E-3	3.23E-5	8.62E-5	1.46E-3	2.87E-5	2.36E-4	3.00E-6	-6.81E-4	1.05E-3
HTP	kg 1,4-DB-eq	1.01E+0	1.57E-2	7.24E-2	1.09E+0	1.43E-2	4.10E-1	7.74E-4	-4.69E-1	1.05E+0
FAETP	kg 1,4-DB-eq	3.06E-2	4.59E-4	2.47E-3	3.36E-2	4.18E-4	6.31E-3	2.76E-4	-1.35E-2	2.71E-2
MAETP	kg 1,4-DB-eq	7.11E+1	1.65E+0	9.75E+0	8.25E+1	1.49E+0	2.14E+1	3.25E-1	-3.03E+1	7.54E+1
TETP	kg 1,4-DB-eq	7.30E-3	5.56E-5	5.39E-3	1.27E-2	5.06E-5	1.45E-3	2.53E-6	-4.49E-3	9.75E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.71E+0	3.77E-2	1.78E-1	2.93E+0	3.37E-2	1.01E+0	1.10E-2	-1.37E+0	2.61E+0
GWP-f	kg CO2 eq	2.69E+0	3.77E-2	1.37E-1	2.86E+0	3.36E-2	9.45E-1	1.10E-2	-1.51E+0	2.34E+0
GWP-b	kg CO2 eq	2.44E-2	1.74E-5	2.83E-2	5.27E-2	2.04E-5	6.24E-2	1.35E-5	1.35E-1	2.50E-1
GWP-luluc	kg CO2 eq	3.01E-3	1.38E-5	1.30E-2	1.60E-2	1.19E-5	4.10E-4	2.80E-7	-1.91E-3	1.46E-2
ODP	kg CFC11 eq	1.37E-6	8.31E-9	1.45E-8	1.40E-6	7.75E-9	1.12E-7	3.98E-10	-7.04E-7	8.11E-7
AP	mol H+ eq	1.28E-2	2.18E-4	8.36E-4	1.38E-2	1.92E-4	1.94E-3	9.69E-6	-6.06E-3	9.91E-3
EP-fw	kg P eq	1.26E-4	3.80E-7	2.40E-6	1.29E-4	2.77E-7	1.37E-5	1.27E-8	-6.40E-5	7.88E-5
EP-m	kg N eq	2.29E-3	7.70E-5	1.97E-4	2.56E-3	6.86E-5	4.79E-4	6.32E-6	-1.09E-3	2.03E-3
EP-T	mol N eq	2.47E-2	8.49E-4	2.18E-3	2.77E-2	7.56E-4	5.28E-3	3.87E-5	-1.17E-2	2.21E-2
POCP	kg NMVOC eq	8.08E-3	2.42E-4	6.20E-4	8.94E-3	2.16E-4	1.58E-3	1.34E-5	-3.93E-3	6.82E-3
ADP-mm	kg Sb eq	2.50E-3	9.54E-7	4.78E-6	2.51E-3	8.70E-7	7.69E-6	9.71E-9	-2.95E-5	2.49E-3
ADP-f	MJ	6.83E+1	5.68E-1	1.53E+0	7.04E+1	5.16E-1	5.27E+0	2.91E-2	-3.67E+1	3.96E+1
WDP	m3 depriv.	4.22E+0	2.03E-3	1.19E+0	5.41E+0	1.58E-3	2.04E-1	1.85E-4	-2.23E+0	3.39E+0
PM	disease inc.	9.02E-8	3.38E-9	1.03E-8	1.04E-7	3.04E-9	2.43E-8	2.00E-10	-4.81E-8	8.33E-8
IR	kBq U-235 eq	1.52E-1	2.38E-3	2.44E-3	1.57E-1	2.26E-3	1.86E-2	1.34E-4	-7.38E-2	1.04E-1
ETP-fw	CTUe	8.08E+1	5.07E-1	3.56E+0	8.49E+1	4.19E-1	3.95E+1	4.35E-1	-3.03E+1	9.50E+1
HTP-c	CTUh	2.14E-9	1.64E-11	1.23E-10	2.28E-9	1.49E-11	5.90E-10	7.99E-13	-8.21E-10	2.06E-9
HTP-nc	CTUh	7.00E-8	5.54E-10	3.85E-9	7.44E-8	5.00E-10	1.40E-8	8.42E-11	-2.83E-8	6.06E-8
SQP	Pt	1.45E+1	4.93E-1	1.15E-1	1.51E+1	4.42E-1	3.25E+0	7.45E-2	-2.96E+1	-1.07E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.44E+0	7.11E-3	7.45E+0	1.19E+1	7.41E-3	3.76E-1	1.09E-3	-6.18E+0	6.11E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.44E+0	7.11E-3	7.45E+0	1.19E+1	7.41E-3	3.76E-1	1.09E-3	-6.18E+0	6.11E+0
PENRE	MJ	7.33E+1	6.03E-1	1.66E+0	7.55E+1	5.48E-1	5.61E+0	3.09E-2	-3.95E+1	4.22E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.33E+1	6.03E-1	1.66E+0	7.55E+1	5.48E-1	5.61E+0	3.09E-2	-3.95E+1	4.22E+1
PET	MJ	7.77E+1	6.10E-1	9.11E+0	8.74E+1	5.56E-1	5.98E+0	3.20E-2	-4.57E+1	4.84E+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	4.87E-2	6.92E-5	2.80E-2	7.68E-2	5.84E-5	5.62E-3	3.57E-5	-2.66E-2	5.59E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.57E-4	1.44E-6	1.63E-6	3.60E-4	1.32E-6	8.64E-6	3.54E-8	-2.98E-5	3.40E-4
NHWD	kg	2.74E-1	3.60E-2	2.51E-3	3.12E-1	3.20E-2	1.93E-1	1.28E-1	-1.19E-1	5.47E-1
RWD	kg	1.36E-4	3.73E-6	3.02E-6	1.43E-4	3.51E-6	2.01E-5	1.89E-7	-6.57E-5	1.01E-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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