

Environmental Profile

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

Ecochain v3.5.80



Product: 3024593 - Wfx PVC Bend 30° BR/GD 160 SN8 S/S
 Unit: 1 piece
 Manufacturer: Wavin - NL - Hardenberg - Verified
 Address: J.C. Kellerlaan 3
 7772 SG Hardenberg
 Netherlands

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



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.

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

ECl = 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	0.21	0	0.01	0.22	0	0.07	0	-0.11	0.19
ADPE	kg Sb-eq	1.70E-3	6.81E-7	2.95E-6	1.71E-3	6.09E-7	5.34E-6	6.79E-9	-2.05E-5	1.69E-3
ADPF	kg Sb-eq	2.28E-2	1.96E-4	5.07E-4	2.35E-2	1.71E-4	1.85E-3	9.41E-6	-1.23E-2	1.32E-2
GWP	kg CO2-eq	1.85E+0	2.66E-2	9.62E-2	1.98E+0	2.33E-2	6.60E-1	6.68E-3	-1.04E+0	1.62E+0
ODP	kg CFC-11-eq	9.47E-7	4.73E-9	7.60E-9	9.60E-7	4.33E-9	7.41E-8	2.24E-10	-4.89E-7	5.49E-7
POCP	kg ethene-eq	1.14E-3	1.61E-5	4.18E-5	1.20E-3	1.40E-5	1.49E-4	1.71E-6	-5.55E-4	8.07E-4
AP	kg SO2-eq	7.39E-3	1.17E-4	4.14E-4	7.92E-3	1.00E-4	1.07E-3	5.06E-6	-3.55E-3	5.55E-3
EP	kg PO4 3--eq	9.54E-4	2.30E-5	5.32E-5	1.03E-3	2.01E-5	1.65E-4	2.14E-6	-4.90E-4	7.27E-4
HTP	kg 1,4-DB-eq	7.01E-1	1.12E-2	4.47E-2	7.57E-1	9.99E-3	2.86E-1	5.46E-4	-3.29E-1	7.25E-1
FAETP	kg 1,4-DB-eq	2.18E-2	3.28E-4	1.53E-3	2.36E-2	2.92E-4	4.43E-3	2.06E-4	-9.79E-3	1.88E-2
MAETP	kg 1,4-DB-eq	4.97E+1	1.18E+0	6.01E+0	5.69E+1	1.04E+0	1.50E+1	2.39E-1	-2.13E+1	5.19E+1
TETP	kg 1,4-DB-eq	5.06E-3	3.97E-5	3.32E-3	8.43E-3	3.54E-5	1.00E-3	1.76E-6	-3.26E-3	6.21E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.92E+0	2.69E-2	1.10E-1	2.05E+0	2.36E-2	7.15E-1	7.80E-3	-9.57E-1	1.84E+0
GWP-f	kg CO2 eq	1.90E+0	2.69E-2	8.46E-2	2.01E+0	2.35E-2	6.65E-1	7.80E-3	-1.07E+0	1.64E+0
GWP-b	kg CO2 eq	1.65E-2	1.24E-5	1.75E-2	3.40E-2	1.43E-5	5.03E-2	9.48E-6	1.10E-1	1.94E-1
GWP-luluc	kg CO2 eq	2.17E-3	9.85E-6	8.03E-3	1.02E-2	8.33E-6	2.82E-4	1.96E-7	-1.43E-3	9.07E-3
ODP	kg CFC11 eq	9.38E-7	5.93E-9	8.94E-9	9.53E-7	5.42E-9	7.65E-8	2.79E-10	-4.84E-7	5.51E-7
AP	mol H+ eq	9.01E-3	1.56E-4	5.16E-4	9.68E-3	1.34E-4	1.35E-3	6.78E-6	-4.30E-3	6.87E-3
EP-fw	kg P eq	8.80E-5	2.71E-7	1.48E-6	8.97E-5	1.94E-7	9.39E-6	8.87E-9	-4.56E-5	5.37E-5
EP-m	kg N eq	1.62E-3	5.49E-5	1.22E-4	1.80E-3	4.80E-5	3.35E-4	4.51E-6	-7.75E-4	1.41E-3
EP-T	mol N eq	1.75E-2	6.05E-4	1.34E-3	1.94E-2	5.29E-4	3.69E-3	2.71E-5	-8.37E-3	1.53E-2
POCP	kg NMVOC eq	5.76E-3	1.73E-4	3.82E-4	6.31E-3	1.51E-4	1.11E-3	9.38E-6	-2.80E-3	4.78E-3
ADP-mm	kg Sb eq	1.70E-3	6.81E-7	2.95E-6	1.71E-3	6.09E-7	5.34E-6	6.79E-9	-2.05E-5	1.69E-3
ADP-f	MJ	4.86E+1	4.05E-1	9.46E-1	4.99E+1	3.61E-1	3.66E+0	2.04E-2	-2.60E+1	2.80E+1
WDP	m3 depriv.	2.91E+0	1.45E-3	7.32E-1	3.64E+0	1.11E-3	1.40E-1	1.29E-4	-1.56E+0	2.22E+0
PM	disease inc.	6.52E-8	2.41E-9	6.37E-9	7.40E-8	2.12E-9	1.70E-8	1.40E-10	-3.51E-8	5.81E-8
IR	kBq U-235 eq	1.07E-1	1.70E-3	1.50E-3	1.10E-1	1.58E-3	1.29E-2	9.38E-5	-5.20E-2	7.30E-2
ETP-fw	CTUe	5.77E+1	3.61E-1	2.20E+0	6.02E+1	2.93E-1	2.69E+1	2.96E-1	-2.21E+1	6.56E+1
HTP-c	CTUh	1.48E-9	1.17E-11	7.60E-11	1.56E-9	1.04E-11	4.11E-10	5.58E-13	-5.77E-10	1.41E-9
HTP-nc	CTUh	4.82E-8	3.95E-10	2.37E-9	5.09E-8	3.50E-10	9.60E-9	5.74E-11	-1.99E-8	4.11E-8
SQP	Pt	1.07E+1	3.52E-1	7.07E-2	1.12E+1	3.09E-1	2.27E+0	5.21E-2	-2.34E+1	-9.59E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.22E+0	5.07E-3	4.60E+0	7.82E+0	5.18E-3	2.58E-1	7.68E-4	-4.80E+0	3.28E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.22E+0	5.07E-3	4.60E+0	7.82E+0	5.18E-3	2.58E-1	7.68E-4	-4.80E+0	3.28E+0
PENRE	MJ	5.21E+1	4.30E-1	1.02E+0	5.36E+1	3.84E-1	3.89E+0	2.16E-2	-2.80E+1	2.99E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.21E+1	4.30E-1	1.02E+0	5.36E+1	3.84E-1	3.89E+0	2.16E-2	-2.80E+1	2.99E+1
PET	MJ	5.53E+1	4.35E-1	5.62E+0	6.14E+1	3.89E-1	4.15E+0	2.24E-2	-3.28E+1	3.32E+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	3.41E-2	4.94E-5	1.73E-2	5.14E-2	4.09E-5	3.86E-3	2.50E-5	-1.91E-2	3.63E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.43E-4	1.03E-6	1.00E-6	2.45E-4	9.24E-7	6.02E-6	2.48E-8	-2.08E-5	2.31E-4
NHWD	kg	1.91E-1	2.57E-2	1.55E-3	2.18E-1	2.24E-2	1.35E-1	8.95E-2	-8.31E-2	3.82E-1
RWD	kg	9.68E-5	2.66E-6	1.86E-6	1.01E-4	2.46E-6	1.40E-5	1.33E-7	-4.63E-5	7.16E-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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