

Environmental Profile

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

Ecochain v3.5.80



Product: 3001306 - Wafix PVC Bend 45° GY 160 SN4 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

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	0.22	0	0.01	0.23	0	0.07	0	-0.11	0.19
ADPE	kg Sb-eq	1.73E-3	7.25E-7	2.95E-6	1.73E-3	6.43E-7	5.51E-6	7.16E-9	-2.12E-5	1.72E-3
ADPF	kg Sb-eq	2.45E-2	2.09E-4	5.07E-4	2.53E-2	1.81E-4	1.91E-3	9.94E-6	-1.32E-2	1.42E-2
GWP	kg CO2-eq	1.96E+0	2.84E-2	9.62E-2	2.08E+0	2.46E-2	7.00E-1	7.19E-3	-1.10E+0	1.71E+0
ODP	kg CFC-11-eq	9.60E-7	5.04E-9	7.60E-9	9.73E-7	4.57E-9	7.51E-8	2.37E-10	-5.01E-7	5.51E-7
POCP	kg ethene-eq	1.24E-3	1.71E-5	4.18E-5	1.30E-3	1.48E-5	1.55E-4	1.82E-6	-5.90E-4	8.84E-4
AP	kg SO2-eq	7.78E-3	1.25E-4	4.14E-4	8.32E-3	1.06E-4	1.10E-3	5.34E-6	-3.70E-3	5.83E-3
EP	kg PO4 3--eq	9.94E-4	2.45E-5	5.32E-5	1.07E-3	2.12E-5	1.71E-4	2.33E-6	-5.06E-4	7.60E-4
HTP	kg 1,4-DB-eq	7.29E-1	1.19E-2	4.47E-2	7.86E-1	1.05E-2	2.98E-1	5.83E-4	-3.39E-1	7.56E-1
FAETP	kg 1,4-DB-eq	2.24E-2	3.49E-4	1.53E-3	2.43E-2	3.09E-4	4.66E-3	2.37E-4	-1.00E-2	1.94E-2
MAETP	kg 1,4-DB-eq	5.17E+1	1.25E+0	6.01E+0	5.90E+1	1.10E+0	1.55E+1	2.71E-1	-2.19E+1	5.39E+1
TETP	kg 1,4-DB-eq	5.17E-3	4.22E-5	3.32E-3	8.54E-3	3.74E-5	1.05E-3	1.84E-6	-3.32E-3	6.30E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.02E+0	2.86E-2	1.10E-1	2.16E+0	2.49E-2	7.55E-1	8.39E-3	-1.02E+0	1.93E+0
GWP-f	kg CO2 eq	2.00E+0	2.86E-2	8.46E-2	2.12E+0	2.48E-2	7.05E-1	8.39E-3	-1.13E+0	1.73E+0
GWP-b	kg CO2 eq	1.62E-2	1.32E-5	1.75E-2	3.37E-2	1.51E-5	5.02E-2	1.00E-5	1.10E-1	1.93E-1
GWP-luluc	kg CO2 eq	2.22E-3	1.05E-5	8.03E-3	1.03E-2	8.79E-6	2.90E-4	2.06E-7	-1.46E-3	9.10E-3
ODP	kg CFC11 eq	9.53E-7	6.32E-9	8.94E-9	9.68E-7	5.73E-9	7.77E-8	2.94E-10	-4.96E-7	5.55E-7
AP	mol H+ eq	9.47E-3	1.66E-4	5.16E-4	1.02E-2	1.42E-4	1.39E-3	7.15E-6	-4.49E-3	7.20E-3
EP-fw	kg P eq	9.06E-5	2.89E-7	1.48E-6	9.24E-5	2.04E-7	9.63E-6	9.36E-9	-4.68E-5	5.55E-5
EP-m	kg N eq	1.69E-3	5.85E-5	1.22E-4	1.87E-3	5.06E-5	3.47E-4	4.92E-6	-8.08E-4	1.47E-3
EP-T	mol N eq	1.83E-2	6.45E-4	1.34E-3	2.03E-2	5.58E-4	3.82E-3	2.86E-5	-8.73E-3	1.59E-2
POCP	kg NMVOC eq	6.15E-3	1.84E-4	3.82E-4	6.71E-3	1.60E-4	1.15E-3	9.94E-6	-2.95E-3	5.08E-3
ADP-mm	kg Sb eq	1.73E-3	7.25E-7	2.95E-6	1.73E-3	6.43E-7	5.51E-6	7.16E-9	-2.12E-5	1.72E-3
ADP-f	MJ	5.22E+1	4.32E-1	9.46E-1	5.36E+1	3.81E-1	3.79E+0	2.15E-2	-2.77E+1	3.01E+1
WDP	m3 depriv.	2.99E+0	1.54E-3	7.32E-1	3.72E+0	1.17E-3	1.43E-1	1.34E-4	-1.61E+0	2.25E+0
PM	disease inc.	6.99E-8	2.57E-9	6.37E-9	7.88E-8	2.24E-9	1.77E-8	1.48E-10	-3.65E-8	6.23E-8
IR	kBq U-235 eq	1.13E-1	1.81E-3	1.50E-3	1.16E-1	1.67E-3	1.33E-2	9.92E-5	-5.35E-2	7.79E-2
ETP-fw	CTUe	5.89E+1	3.85E-1	2.20E+0	6.15E+1	3.10E-1	2.71E+1	2.98E-1	-2.26E+1	6.66E+1
HTP-c	CTUh	1.51E-9	1.25E-11	7.60E-11	1.60E-9	1.10E-11	4.27E-10	5.86E-13	-5.94E-10	1.45E-9
HTP-nc	CTUh	4.92E-8	4.21E-10	2.37E-9	5.20E-8	3.69E-10	9.83E-9	5.83E-11	-2.04E-8	4.18E-8
SQP	Pt	1.11E+1	3.74E-1	7.07E-2	1.15E+1	3.26E-1	2.38E+0	5.51E-2	-2.35E+1	-9.20E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.31E+0	5.40E-3	4.60E+0	7.91E+0	5.47E-3	2.65E-1	8.15E-4	-4.84E+0	3.35E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.31E+0	5.40E-3	4.60E+0	7.91E+0	5.47E-3	2.65E-1	8.15E-4	-4.84E+0	3.35E+0
PENRE	MJ	5.60E+1	4.58E-1	1.02E+0	5.75E+1	4.05E-1	4.03E+0	2.28E-2	-2.99E+1	3.21E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.60E+1	4.58E-1	1.02E+0	5.75E+1	4.05E-1	4.03E+0	2.28E-2	-2.99E+1	3.21E+1
PET	MJ	5.93E+1	4.64E-1	5.62E+0	6.54E+1	4.10E-1	4.30E+0	2.36E-2	-3.47E+1	3.54E+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	3.56E-2	5.26E-5	1.73E-2	5.29E-2	4.32E-5	3.95E-3	2.64E-5	-1.97E-2	3.72E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.44E-4	1.09E-6	1.00E-6	2.46E-4	9.75E-7	6.24E-6	2.61E-8	-2.15E-5	2.32E-4
NHWD	kg	1.96E-1	2.74E-2	1.55E-3	2.25E-1	2.36E-2	1.42E-1	9.45E-2	-8.57E-2	3.99E-1
RWD	kg	1.04E-4	2.83E-6	1.86E-6	1.08E-4	2.59E-6	1.45E-5	1.40E-7	-4.77E-5	7.80E-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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