

Environmental Profile

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

Ecochain v3.5.80



Product: 3004225 - PVC RWA Bend 87.3° WT 80 S/RSP
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	0.03	0	0	0.04	0	0.01	0	-0.02	0.03
ADPE	kg Sb-eq	3.05E-4	1.08E-7	5.11E-7	3.05E-4	1.00E-7	9.17E-7	1.12E-9	-3.51E-6	3.03E-4
ADPF	kg Sb-eq	3.59E-3	3.12E-5	8.78E-5	3.71E-3	2.82E-5	3.15E-4	1.55E-6	-1.97E-3	2.08E-3
GWP	kg CO2-eq	3.02E-1	4.25E-3	1.67E-2	3.23E-1	3.84E-3	1.07E-1	1.05E-3	-1.70E-1	2.66E-1
ODP	kg CFC-11-eq	1.69E-7	7.53E-10	1.32E-9	1.71E-7	7.12E-10	1.32E-8	3.69E-11	-8.54E-8	9.98E-8
POCP	kg ethene-eq	1.73E-4	2.56E-6	7.24E-6	1.82E-4	2.30E-6	2.51E-5	2.73E-7	-8.88E-5	1.21E-4
AP	kg SO2-eq	1.21E-3	1.87E-5	7.16E-5	1.30E-3	1.65E-5	1.84E-4	8.33E-7	-5.87E-4	9.17E-4
EP	kg PO4 3--eq	1.58E-4	3.67E-6	9.21E-6	1.71E-4	3.30E-6	2.80E-5	3.29E-7	-8.14E-5	1.21E-4
HTP	kg 1,4-DB-eq	1.18E-1	1.79E-3	7.74E-3	1.28E-1	1.64E-3	4.79E-2	8.75E-5	-5.58E-2	1.22E-1
FAETP	kg 1,4-DB-eq	3.67E-3	5.22E-5	2.64E-4	3.99E-3	4.81E-5	7.31E-4	2.70E-5	-1.64E-3	3.16E-3
MAETP	kg 1,4-DB-eq	8.35E+0	1.88E-1	1.04E+0	9.58E+0	1.72E-1	2.53E+0	3.30E-2	-3.61E+0	8.71E+0
TETP	kg 1,4-DB-eq	8.81E-4	6.32E-6	5.75E-4	1.46E-3	5.82E-6	1.70E-4	2.94E-7	-5.48E-4	1.09E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.13E-1	4.29E-3	1.91E-2	3.36E-1	3.87E-3	1.16E-1	1.23E-3	-1.56E-1	3.01E-1
GWP-f	kg CO2 eq	3.09E-1	4.28E-3	1.47E-2	3.28E-1	3.87E-3	1.08E-1	1.23E-3	-1.74E-1	2.68E-1
GWP-b	kg CO2 eq	3.11E-3	1.98E-6	3.02E-3	6.13E-3	2.35E-6	7.99E-3	1.55E-6	1.74E-2	3.15E-2
GWP-luluc	kg CO2 eq	3.65E-4	1.57E-6	1.39E-3	1.76E-3	1.37E-6	4.90E-5	3.22E-8	-2.36E-4	1.57E-3
ODP	kg CFC11 eq	1.67E-7	9.45E-10	1.55E-9	1.69E-7	8.92E-10	1.36E-8	4.58E-11	-8.45E-8	9.94E-8
AP	mol H+ eq	1.48E-3	2.48E-5	8.93E-5	1.59E-3	2.20E-5	2.31E-4	1.12E-6	-7.12E-4	1.14E-3
EP-fw	kg P eq	1.50E-5	4.32E-8	2.57E-7	1.53E-5	3.18E-8	1.64E-6	1.46E-9	-7.70E-6	9.31E-6
EP-m	kg N eq	2.68E-4	8.75E-6	2.11E-5	2.98E-4	7.89E-6	5.68E-5	6.91E-7	-1.28E-4	2.35E-4
EP-T	mol N eq	2.88E-3	9.65E-5	2.33E-4	3.21E-3	8.69E-5	6.25E-4	4.45E-6	-1.38E-3	2.54E-3
POCP	kg NMVOC eq	9.14E-4	2.75E-5	6.62E-5	1.01E-3	2.48E-5	1.87E-4	1.53E-6	-4.55E-4	7.66E-4
ADP-mm	kg Sb eq	3.05E-4	1.08E-7	5.11E-7	3.05E-4	1.00E-7	9.17E-7	1.12E-9	-3.51E-6	3.03E-4
ADP-f	MJ	7.65E+0	6.46E-2	1.64E-1	7.88E+0	5.94E-2	6.24E-1	3.35E-3	-4.16E+0	4.41E+0
WDP	m3 depriv.	5.06E-1	2.31E-4	1.27E-1	6.33E-1	1.82E-4	2.46E-2	2.17E-5	-2.65E-1	3.92E-1
PM	disease inc.	1.01E-8	3.85E-10	1.10E-9	1.16E-8	3.49E-10	2.86E-9	2.30E-11	-5.70E-9	9.16E-9
IR	kBq U-235 eq	1.76E-2	2.71E-4	2.60E-4	1.81E-2	2.60E-4	2.21E-3	1.54E-5	-8.83E-3	1.18E-2
ETP-fw	CTUe	9.80E+0	5.76E-2	3.80E-1	1.02E+1	4.82E-2	4.85E+0	5.34E-2	-3.69E+0	1.15E+1
HTP-c	CTUh	2.56E-10	1.87E-12	1.32E-11	2.71E-10	1.72E-12	6.94E-11	9.25E-14	-9.81E-11	2.44E-10
HTP-nc	CTUh	8.44E-9	6.30E-11	4.11E-10	8.92E-9	5.75E-11	1.68E-9	1.02E-11	-3.39E-9	7.27E-9
SQP	Pt	1.74E+0	5.60E-2	1.22E-2	1.81E+0	5.08E-2	3.80E-1	8.57E-3	-3.75E+0	-1.50E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.34E-1	8.09E-4	7.96E-1	1.33E+0	8.52E-4	4.50E-2	1.25E-4	-7.76E-1	6.01E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.34E-1	8.09E-4	7.96E-1	1.33E+0	8.52E-4	4.50E-2	1.25E-4	-7.76E-1	6.01E-1
PENRE	MJ	8.21E+0	6.86E-2	1.77E-1	8.45E+0	6.31E-2	6.63E-1	3.55E-3	-4.47E+0	4.71E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.21E+0	6.86E-2	1.77E-1	8.45E+0	6.31E-2	6.63E-1	3.55E-3	-4.47E+0	4.71E+0
PET	MJ	8.74E+0	6.94E-2	9.73E-1	9.78E+0	6.39E-2	7.08E-1	3.68E-3	-5.25E+0	5.31E+0
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	5.70E-3	7.87E-6	3.00E-3	8.70E-3	6.72E-6	6.75E-4	4.10E-6	-3.18E-3	6.21E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.39E-5	1.64E-7	1.74E-7	4.42E-5	1.52E-7	1.02E-6	4.08E-9	-3.54E-6	4.19E-5
NHWD	kg	3.26E-2	4.10E-3	2.69E-4	3.69E-2	3.68E-3	2.25E-2	1.47E-2	-1.42E-2	6.37E-2
RWD	kg	1.53E-5	4.24E-7	3.22E-7	1.60E-5	4.04E-7	2.37E-6	2.18E-8	-7.86E-6	1.10E-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