

Environmental Profile

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

Ecochain v3.5.80



Product: 3000684 - PVC Pipe GY BENOR 400x7.9 SN2 L=3 SC/CH
 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	☑	☑	☑	☑									

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
 A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
 B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
 C4 Disposal

Benefits and loads beyond the system boundaries

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	9.22	0.24	0.4	9.87	0.15	3.28	0.02	-4.57	8.75
ADPE	kg Sb-eq	2.64E-3	5.12E-5	7.35E-5	2.76E-3	3.16E-5	2.65E-4	3.32E-7	-9.60E-4	2.10E-3
ADPF	kg Sb-eq	1.02E+0	1.47E-2	1.97E-2	1.05E+0	8.89E-3	9.33E-2	4.68E-4	-5.36E-1	6.21E-1
GWP	kg CO2-eq	8.27E+1	2.00E+0	3.50E+0	8.82E+1	1.21E+0	3.18E+1	2.98E-1	-4.53E+1	7.62E+1
ODP	kg CFC-11-eq	4.76E-5	3.56E-7	3.29E-7	4.83E-5	2.25E-7	3.77E-6	1.12E-8	-2.35E-5	2.88E-5
POCP	kg ethene-eq	5.17E-2	1.21E-3	1.54E-3	5.44E-2	7.26E-4	7.38E-3	7.91E-5	-2.32E-2	3.94E-2
AP	kg SO2-eq	3.22E-1	8.81E-3	1.37E-2	3.45E-1	5.21E-3	5.39E-2	2.50E-4	-1.49E-1	2.55E-1
EP	kg PO4 3--eq	3.90E-2	1.73E-3	2.17E-3	4.29E-2	1.04E-3	8.21E-3	9.77E-5	-1.84E-2	3.38E-2
HTP	kg 1,4-DB-eq	3.27E+1	8.44E-1	1.32E+0	3.48E+1	5.18E-1	1.44E+1	2.56E-2	-1.44E+1	3.53E+1
FAETP	kg 1,4-DB-eq	7.08E-1	2.46E-2	5.38E-2	7.86E-1	1.52E-2	2.12E-1	7.58E-3	-3.16E-1	7.05E-1
MAETP	kg 1,4-DB-eq	2.07E+3	8.86E+1	2.20E+2	2.38E+3	5.42E+1	7.00E+2	9.30E+0	-9.26E+2	2.22E+3
TETP	kg 1,4-DB-eq	2.24E-1	2.98E-3	8.21E-2	3.09E-1	1.83E-3	5.13E-2	8.52E-5	-1.05E-1	2.57E-1
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.43E+1	2.02E+0	4.13E+0	8.05E+1	1.22E+0	4.32E+1	3.47E-1	-4.67E+1	7.85E+1
GWP-f	kg CO2 eq	8.48E+1	2.02E+0	3.23E+0	9.00E+1	1.22E+0	3.20E+1	3.47E-1	-4.63E+1	7.73E+1
GWP-b	kg CO2 eq	-1.05E+1	9.33E-4	6.98E-1	-9.80E+0	7.41E-4	1.11E+1	4.45E-4	-3.23E-1	9.99E-1
GWP-luluc	kg CO2 eq	7.12E-2	7.41E-4	1.97E-1	2.69E-1	4.32E-4	1.44E-2	9.37E-6	-3.16E-2	2.52E-1
ODP	kg CFC11 eq	4.70E-5	4.46E-7	3.90E-7	4.78E-5	2.81E-7	3.89E-6	1.40E-8	-2.33E-5	2.87E-5
AP	mol H+ eq	3.89E-1	1.17E-2	1.76E-2	4.19E-1	6.95E-3	6.77E-2	3.35E-4	-1.80E-1	3.13E-1
EP-fw	kg P eq	3.75E-3	2.04E-5	4.62E-5	3.82E-3	1.00E-5	4.80E-4	4.23E-7	-1.73E-3	2.58E-3
EP-m	kg N eq	6.63E-2	4.13E-3	5.19E-3	7.57E-2	2.49E-3	1.66E-2	2.07E-4	-3.18E-2	6.32E-2
EP-T	mol N eq	7.22E-1	4.55E-2	5.57E-2	8.24E-1	2.74E-2	1.83E-1	1.34E-3	-3.46E-1	6.90E-1
POCP	kg NMVOC eq	2.48E-1	1.30E-2	1.57E-2	2.77E-1	7.84E-3	5.49E-2	4.55E-4	-1.16E-1	2.24E-1
ADP-mm	kg Sb eq	2.64E-3	5.12E-5	7.35E-5	2.76E-3	3.16E-5	2.65E-4	3.32E-7	-9.60E-4	2.10E-3
ADP-f	MJ	2.17E+3	3.05E+1	3.74E+1	2.24E+3	1.87E+1	1.85E+2	1.01E+0	-1.12E+3	1.32E+3
WDP	m3 depriv.	1.41E+2	1.09E-1	2.53E+1	1.66E+2	5.75E-2	7.18E+0	5.82E-3	-6.68E+1	1.07E+2
PM	disease inc.	3.08E-6	1.82E-7	2.73E-7	3.54E-6	1.10E-7	8.46E-7	6.94E-9	-1.20E-6	3.30E-6
IR	kBq U-235 eq	4.67E+0	1.28E-1	6.75E-2	4.86E+0	8.19E-2	6.46E-1	4.64E-3	-2.17E+0	3.42E+0
ETP-fw	CTUe	1.48E+3	2.72E+1	6.24E+1	1.57E+3	1.52E+1	1.38E+3	1.52E+1	-6.93E+2	2.29E+3
HTP-c	CTUh	6.00E-8	8.82E-10	2.13E-9	6.30E-8	5.41E-10	2.07E-8	2.65E-11	-2.52E-8	5.91E-8
HTP-nc	CTUh	1.84E-6	2.97E-8	6.51E-8	1.94E-6	1.81E-8	4.87E-7	2.91E-9	-8.66E-7	1.58E-6
SQP	Pt	1.28E+3	2.64E+1	2.80E+0	1.31E+3	1.60E+1	1.16E+2	2.57E+0	-3.35E+2	1.11E+3

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.55E+2	3.82E-1	1.13E+2	3.68E+2	2.69E-1	1.32E+1	3.66E-2	-9.21E+1	2.90E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.55E+2	3.82E-1	1.13E+2	3.68E+2	2.69E-1	1.32E+1	3.66E-2	-9.21E+1	2.90E+2
PENRE	MJ	2.32E+3	3.24E+1	4.05E+1	2.40E+3	1.99E+1	1.97E+2	1.07E+0	-1.21E+3	1.40E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.32E+3	3.24E+1	4.05E+1	2.40E+3	1.99E+1	1.97E+2	1.07E+0	-1.21E+3	1.40E+3
PET	MJ	2.58E+3	3.28E+1	1.53E+2	2.77E+3	2.02E+1	2.10E+2	1.11E+0	-1.30E+3	1.69E+3
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	1.52E+0	3.71E-3	5.95E-1	2.12E+0	2.12E-3	1.98E-1	1.24E-3	-7.00E-1	1.62E+0
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.76E-3	7.73E-5	5.24E-5	1.89E-3	4.79E-5	2.99E-4	1.22E-6	-9.40E-4	1.29E-3
NHWD	kg	8.47E+0	1.93E+0	7.55E-2	1.05E+1	1.16E+0	6.98E+0	4.66E+0	-3.64E+0	1.96E+1
RWD	kg	4.14E-3	2.00E-4	9.41E-5	4.44E-3	1.27E-4	6.94E-4	6.61E-6	-1.92E-3	3.35E-3
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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