Environmental Profile

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

Ecochain v3.5.80

Product:	3082296 - PVC Pipe DGR KOMO 250x7.7 PN8 L=10 CH
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

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]

Statement of Confidentiality

Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	18.71	0.34	0.78	19.83	0.28	6.39	0.04	-9.33	17.22
ADPE	kg Sb-eq	1.39E-1	7.21E-5	1.42E-4	1.39E-1	6.02E-5	5.20E-4	6.61E-7	-1.96E-3	1.38E-1
ADPF	kg Sb-eq	2.03E+0	2.07E-2	3.79E-2	2.09E+0	1.70E-2	1.82E-1	9.19E-4	-1.10E+0	1.19E+0
GWP	kg CO2-eq	1.66E+2	2.82E+0	6.75E+0	1.76E+2	2.31E+0	6.21E+1	6.13E-1	-9.28E+1	1.48E+2
ODP	kg CFC-11-eq	9.69E-5	5.00E-7	6.34E-7	9.80E-5	4.28E-7	7.59E-6	2.19E-8	-4.87E-5	5.73E-5
POCP	kg ethene-eq	9.83E-2	1.70E-3	2.97E-3	1.03E-1	1.39E-3	1.42E-2	1.60E-4	-4.73E-2	7.14E-2
AP	kg SO2-eq	6.65E-1	1.24E-2	2.65E-2	7.03E-1	9.94E-3	1.05E-1	4.93E-4	-3.03E-1	5.16E-1
EP	kg PO4 3−-eq	8.04E-2	2.44E-3	4.18E-3	8.70E-2	1.99E-3	1.59E-2	1.93E-4	-3.64E-2	6.86E-2
HTP	kg 1,4-DB-eq	6.59E+1	1.19E+0	2.55E+0	6.97E+1	9.88E-1	2.79E+1	5.14E-2	-2.95E+1	6.91E+1
FAETP	kg 1,4-DB-eq	1.68E+0	3.47E-2	1.04E-1	1.82E+0	2.89E-2	4.16E-1	1.56E-2	-6.46E-1	1.63E+0
MAETP	kg 1,4-DB-eq	4.51E+3	1.25E+2	4.23E+2	5.06E+3	1.03E+2	1.39E+3	1.92E+1	-1.90E+3	4.67E+3
TETP	kg 1,4-DB-eq	4.66E-1	4.20E-3	1.58E-1	6.29E-1	3.50E-3	1.00E-1	1.72E-4	-2.15E-1	5.17E-1
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.66E+2	2.85E+0	7.95E+0	1.77E+2	2.33E+0	6.85E+1	7.14E-1	-9.56E+1	1.53E+2
GWP-f	kg CO2 eq	1.71E+2	2.84E+0	6.22E+0	1.80E+2	2.33E+0	6.26E+1	7.14E-1	-9.49E+1	1.50E+2
GWP-b	kg CO2 eq	-4.34E+0	1.31E-3	1.35E+0	-3.00E+0	1.41E-3	5.86E+0	9.04E-4	-6.70E-1	2.20E+0
GWP-luluc	kg CO2 eq	1.50E-1	1.04E-3	3.79E-1	5.31E-1	8.24E-4	2.86E-2	1.90E-5	-6.30E-2	4.97E-1
ODP	kg CFC11 eq	9.55E-5	6.28E-7	7.52E-7	9.69E-5	5.37E-7	7.80E-6	2.72E-8	-4.82E-5	5.70E-5
AP	mol H+ eq	8.03E-1	1.65E-2	3.39E-2	8.53E-1	1.33E-2	1.32E-1	6.60E-4	-3.65E-1	6.34E-1
EP-fw	kg P eq	7.97E-3	2.87E-5	8.90E-5	8.09E-3	1.92E-5	9.54E-4	8.58E-7	-3.55E-3	5.51E-3
EP-m	kg N eq	1.37E-1	5.81E-3	1.00E-2	1.53E-1	4.75E-3	3.19E-2	4.06E-4	-6.34E-2	1.26E-1
EP-T	mol N eq	1.50E+0	6.41E-2	1.07E-1	1.67E+0	5.23E-2	3.52E-1	2.63E-3	-6.78E-1	1.40E+0
POCP	kg NMVOC eq	4.97E-1	1.83E-2	3.03E-2	5.46E-1	1.50E-2	1.05E-1	9.03E-4	-2.33E-1	4.34E-1
ADP-mm	kg Sb eq	1.39E-1	7.21E-5	1.42E-4	1.39E-1	6.02E-5	5.20E-4	6.61E-7	-1.96E-3	1.38E-1
ADP-f	MJ	4.33E+3	4.29E+1	7.20E+1	4.44E+3	3.57E+1	3.60E+2	1.99E+0	-2.31E+3	2.52E+3
WDP	m3 depriv.	2.89E+2	1.53E-1	4.87E+1	3.38E+2	1.10E-1	1.44E+1	1.29E-2	-1.38E+2	2.14E+2
PM	disease inc.	5.37E-6	2.55E-7	5.27E-7	6.16E-6	2.10E-7	1.63E-6	1.37E-8	-2.34E-6	5.67E-6
IR	kBq U-235 eq	9.66E+0	1.80E-1	1.30E-1	9.96E+0	1.56E-1	1.27E+0	9.11E-3	-4.47E+0	6.93E+0
ETP-fw	CTUe	4.06E+3	3.82E+1	1.20E+2	4.21E+3	2.90E+1	2.79E+3	3.10E+1	-1.36E+3	5.71E+3
HTP-c	CTUh	1.40E-7	1.24E-9	4.10E-9	1.45E-7	1.03E-9	4.01E-8	5.43E-11	-5.10E-8	1.35E-7
HTP-nc	CTUh	4.53E-6	4.18E-8	1.25E-7	4.70E-6	3.46E-8	9.69E-7	5.94E-9	-1.77E-6	3.94E-6
SQP	Pt	1.11E+3	3.72E+1	5.39E+0	1.15E+3	3.06E+1	2.22E+2	5.07E+0	-3.61E+2	1.04E+3

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.98E+2	5.37E-1	2.17E+2	5.16E+2	5.13E-1	2.62E+1	7.31E-2	-1.24E+2	4.19E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.98E+2	5.37E-1	2.17E+2	5.16E+2	5.13E-1	2.62E+1	7.31E-2	-1.24E+2	4.19E+2
PENRE	MJ	4.64E+3	4.55E+1	7.81E+1	4.76E+3	3.80E+1	3.84E+2	2.11E+0	-2.49E+3	2.69E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.64E+3	4.55E+1	7.81E+1	4.76E+3	3.80E+1	3.84E+2	2.11E+0	-2.49E+3	2.69E+3
PET	MJ	4.94E+3	4.61E+1	2.95E+2	5.28E+3	3.85E+1	4.10E+2	2.18E+0	-2.62E+3	3.11E+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	3.16E+0	5.22E-3	1.15E+0	4.31E+0	4.05E-3	3.92E-1	2.43E-3	-1.44E+0	3.27E+0
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.05E-2	1.09E-4	1.01E-4	2.07E-2	9.14E-5	5.81E-4	2.42E-6	-1.92E-3	1.95E-2
NHWD	kg	1.71E+1	2.72E+0	1.46E-1	2.00E+1	2.22E+0	1.31E+1	8.86E+0	-7.41E+0	3.68E+1
RWD	kg	8.37E-3	2.82E-4	1.81E-4	8.83E-3	2.43E-4	1.35E-3	1.29E-5	-3.94E-3	6.50E-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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