Environmental Profile

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

Ecochain v3.5.80

Product:	3002890 - PVC Pipe GY 75x3 L=4 SG/CH Uncert
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	0.77	0.03	0.04	0.84	0.01	0.29	0	-0.39	0.75
ADPE	kg Sb-eq	1.96E-4	6.67E-6	6.53E-6	2.09E-4	2.83E-6	2.33E-5	2.91E-8	-8.17E-5	1.53E-4
ADPF	kg Sb-eq	8.61E-2	1.92E-3	1.75E-3	8.97E-2	7.98E-4	8.24E-3	4.12E-5	-4.59E-2	5.29E-2
GWP	kg CO2-eq	6.92E+0	2.61E-1	3.11E-1	7.49E+0	1.09E-1	2.71E+0	2.55E-2	-3.87E+0	6.46E+0
ODP	kg CFC-11-eq	4.09E-6	4.63E-8	2.92E-8	4.16E-6	2.01E-8	3.28E-7	9.91E-10	-2.03E-6	2.48E-6
POCP	kg ethene-eq	4.25E-3	1.58E-4	1.37E-4	4.54E-3	6.52E-5	6.49E-4	6.84E-6	-1.97E-3	3.29E-3
AP	kg SO2-eq	2.66E-2	1.15E-3	1.22E-3	2.90E-2	4.68E-4	4.70E-3	2.19E-5	-1.26E-2	2.15E-2
EP	kg PO4 3−-eq	3.17E-3	2.26E-4	1.93E-4	3.59E-3	9.34E-5	7.13E-4	8.36E-6	-1.52E-3	2.88E-3
HTP	kg 1,4-DB-eq	2.72E+0	1.10E-1	1.17E-1	2.95E+0	4.65E-2	1.28E+0	2.23E-3	-1.23E+0	3.05E+0
FAETP	kg 1,4-DB-eq	5.85E-2	3.21E-3	4.78E-3	6.65E-2	1.36E-3	1.87E-2	6.50E-4	-2.69E-2	6.03E-2
MAETP	kg 1,4-DB-eq	1.70E+2	1.15E+1	1.95E+1	2.01E+2	4.86E+0	6.15E+1	8.00E-1	-7.93E+1	1.89E+2
TETP	kg 1,4-DB-eq	1.88E-2	3.88E-4	7.29E-3	2.65E-2	1.65E-4	4.55E-3	7.37E-6	-8.96E-3	2.22E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.88E+0	2.63E-1	3.66E-1	7.51E+0	1.10E-1	3.01E+0	2.97E-2	-3.99E+0	6.67E+0
GWP-f	kg CO2 eq	7.10E+0	2.63E-1	2.87E-1	7.65E+0	1.10E-1	2.73E+0	2.97E-2	-3.96E+0	6.56E+0
GWP-b	kg CO2 eq	-2.22E-1	1.22E-4	6.20E-2	-1.60E-1	6.65E-5	2.77E-1	3.84E-5	-2.79E-2	8.91E-2
GWP-luluc	kg CO2 eq	5.61E-3	9.65E-5	1.75E-2	2.32E-2	3.88E-5	1.27E-3	8.16E-7	-2.63E-3	2.19E-2
ODP	kg CFC11 eq	4.03E-6	5.81E-8	3.47E-8	4.12E-6	2.52E-8	3.38E-7	1.23E-9	-2.01E-6	2.48E-6
AP	mol H+ eq	3.20E-2	1.53E-3	1.56E-3	3.51E-2	6.24E-4	5.90E-3	2.94E-5	-1.52E-2	2.64E-2
EP-fw	kg P eq	3.14E-4	2.66E-6	4.10E-6	3.20E-4	9.01E-7	4.21E-5	3.67E-8	-1.48E-4	2.15E-4
EP-m	kg N eq	5.39E-3	5.38E-4	4.61E-4	6.38E-3	2.23E-4	1.44E-3	1.77E-5	-2.65E-3	5.42E-3
EP-T	mol N eq	5.83E-2	5.93E-3	4.95E-3	6.91E-2	2.46E-3	1.58E-2	1.18E-4	-2.84E-2	5.92E-2
POCP	kg NMVOC eq	2.02E-2	1.69E-3	1.40E-3	2.33E-2	7.03E-4	4.77E-3	3.98E-5	-9.74E-3	1.91E-2
ADP-mm	kg Sb eq	1.96E-4	6.67E-6	6.53E-6	2.09E-4	2.83E-6	2.33E-5	2.91E-8	-8.17E-5	1.53E-4
ADP-f	MJ	1.83E+2	3.97E+0	3.32E+0	1.90E+2	1.68E+0	1.63E+1	8.91E-2	-9.64E+1	1.12E+2
WDP	m3 depriv.	1.20E+1	1.42E-2	2.25E+0	1.43E+1	5.16E-3	6.27E-1	5.03E-4	-5.76E+0	9.17E+0
PM	disease inc.	2.24E-7	2.36E-8	2.43E-8	2.72E-7	9.89E-9	7.47E-8	6.10E-10	-9.80E-8	2.59E-7
IR	kBq U-235 eq	3.87E-1	1.66E-2	5.99E-3	4.10E-1	7.35E-3	5.68E-2	4.08E-4	-1.86E-1	2.88E-1
ETP-fw	CTUe	1.20E+2	3.54E+0	5.54E+0	1.29E+2	1.37E+0	1.19E+2	1.31E+0	-5.72E+1	1.94E+2
HTP-c	CTUh	4.86E-9	1.15E-10	1.89E-10	5.16E-9	4.86E-11	1.78E-9	2.29E-12	-2.13E-9	4.87E-9
HTP-nc	CTUh	1.55E-7	3.87E-9	5.78E-9	1.64E-7	1.63E-9	4.25E-8	2.52E-10	-7.36E-8	1.35E-7
SQP	Pt	4.77E+1	3.44E+0	2.48E-1	5.14E+1	1.44E+0	1.03E+1	2.25E-1	-1.57E+1	4.77E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.26E+1	4.97E-2	1.00E+1	2.26E+1	2.41E-2	1.16E+0	3.16E-3	-5.28E+0	1.85E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.26E+1	4.97E-2	1.00E+1	2.26E+1	2.41E-2	1.16E+0	3.16E-3	-5.28E+0	1.85E+1
PENRE	MJ	1.96E+2	4.22E+0	3.60E+0	2.04E+2	1.78E+0	1.74E+1	9.46E-2	-1.04E+2	1.20E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.96E+2	4.22E+0	3.60E+0	2.04E+2	1.78E+0	1.74E+1	9.46E-2	-1.04E+2	1.20E+2
PET	MJ	2.09E+2	4.27E+0	1.36E+1	2.27E+2	1.81E+0	1.85E+1	9.77E-2	-1.09E+2	1.38E+2
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	1.28E-1	4.84E-4	5.29E-2	1.81E-1	1.90E-4	1.71E-2	1.09E-4	-6.03E-2	1.39E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.45E-4	1.01E-5	4.65E-6	1.60E-4	4.30E-6	2.63E-5	1.07E-7	-8.00E-5	1.11E-4
NHWD	kg	6.89E-1	2.52E-1	6.71E-3	9.47E-1	1.04E-1	6.09E-1	4.16E-1	-3.09E-1	1.77E+0
RWD	kg	3.39E-4	2.61E-5	8.35E-6	3.74E-4	1.14E-5	6.13E-5	5.83E-7	-1.64E-4	2.83E-4
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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