Environmental Profile

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

Ecochain v3.5.80

Product:	3004179 - PVC RWA Reservoir GY 70 Model 2
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	0.13	0	0.01	0.13	0	0.04	0	-0.06	0.11
ADPE	kg Sb-eq	1.16E-3	3.96E-7	1.80E-6	1.16E-3	3.81E-7	3.42E-6	4.26E-9	-1.31E-5	1.15E-3
ADPF	kg Sb-eq	1.34E-2	1.14E-4	3.09E-4	1.39E-2	1.07E-4	1.19E-3	5.90E-6	-7.37E-3	7.79E-3
GWP	kg CO2-eq	1.12E+0	1.55E-2	5.87E-2	1.19E+0	1.46E-2	4.05E-1	4.01E-3	-6.28E-1	9.89E-1
ODP	kg CFC-11-eq	6.40E-7	2.75E-9	4.64E-9	6.48E-7	2.71E-9	4.99E-8	1.41E-10	-3.23E-7	3.78E-7
POCP	kg ethene-eq	6.43E-4	9.35E-6	2.55E-5	6.77E-4	8.77E-6	9.28E-5	1.04E-6	-3.23E-4	4.57E-4
AP	kg SO2-eq	4.49E-3	6.81E-5	2.52E-4	4.81E-3	6.29E-5	6.90E-4	3.17E-6	-2.11E-3	3.46E-3
EP	kg PO4 3−-eq	5.64E-4	1.34E-5	3.24E-5	6.10E-4	1.26E-5	1.04E-4	1.25E-6	-2.72E-4	4.55E-4
HTP	kg 1,4-DB-eq	4.39E-1	6.52E-3	2.73E-2	4.72E-1	6.25E-3	1.80E-1	3.33E-4	-2.03E-1	4.57E-1
FAETP	kg 1,4-DB-eq	1.27E-2	1.90E-4	9.31E-4	1.38E-2	1.83E-4	2.72E-3	1.03E-4	-5.22E-3	1.16E-2
MAETP	kg 1,4-DB-eq	3.09E+1	6.85E-1	3.67E+0	3.53E+1	6.54E-1	9.31E+0	1.26E-1	-1.31E+1	3.23E+1
TETP	kg 1,4-DB-eq	3.22E-3	2.30E-5	2.03E-3	5.27E-3	2.22E-5	6.45E-4	1.12E-6	-1.74E-3	4.19E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.16E+0	1.56E-2	6.72E-2	1.24E+0	1.48E-2	4.23E-1	4.68E-3	-6.12E-1	1.07E+0
GWP-f	kg CO2 eq	1.14E+0	1.56E-2	5.16E-2	1.21E+0	1.47E-2	4.08E-1	4.68E-3	-6.42E-1	9.98E-1
GWP-b	kg CO2 eq	1.13E-2	7.21E-6	1.06E-2	2.20E-2	8.95E-6	1.48E-2	5.91E-6	3.05E-2	6.74E-2
GWP-luluc	kg CO2 eq	1.19E-3	5.72E-6	4.90E-3	6.09E-3	5.22E-6	1.86E-4	1.23E-7	-6.51E-4	5.63E-3
ODP	kg CFC11 eq	6.31E-7	3.45E-9	5.45E-9	6.40E-7	3.40E-9	5.14E-8	1.75E-10	-3.19E-7	3.76E-7
AP	mol H+ eq	5.45E-3	9.06E-5	3.15E-4	5.85E-3	8.40E-5	8.64E-4	4.25E-6	-2.54E-3	4.26E-3
EP-fw	kg P eq	5.51E-5	1.58E-7	9.04E-7	5.61E-5	1.21E-7	6.22E-6	5.56E-9	-2.63E-5	3.62E-5
EP-m	kg N eq	9.59E-4	3.19E-5	7.43E-5	1.06E-3	3.00E-5	2.10E-4	2.63E-6	-4.49E-4	8.59E-4
EP-T	mol N eq	1.04E-2	3.52E-4	8.19E-4	1.15E-2	3.31E-4	2.31E-3	1.69E-5	-4.80E-3	9.40E-3
POCP	kg NMVOC eq	3.36E-3	1.00E-4	2.33E-4	3.69E-3	9.46E-5	6.92E-4	5.83E-6	-1.62E-3	2.86E-3
ADP-mm	kg Sb eq	1.16E-3	3.96E-7	1.80E-6	1.16E-3	3.81E-7	3.42E-6	4.26E-9	-1.31E-5	1.15E-3
ADP-f	MJ	2.87E+1	2.36E-1	5.77E-1	2.95E+1	2.26E-1	2.34E+0	1.28E-2	-1.55E+1	1.65E+1
WDP	m3 depriv.	1.91E+0	8.43E-4	4.46E-1	2.36E+0	6.94E-4	9.36E-2	8.26E-5	-9.59E-1	1.50E+0
PM	disease inc.	3.58E-8	1.40E-9	3.88E-9	4.11E-8	1.33E-9	1.07E-8	8.78E-11	-1.83E-8	3.48E-8
IR	kBq U-235 eq	6.54E-2	9.87E-4	9.17E-4	6.73E-2	9.89E-4	8.28E-3	5.86E-5	-3.14E-2	4.52E-2
ETP-fw	CTUe	3.29E+1	2.10E-1	1.34E+0	3.44E+1	1.84E-1	1.84E+1	2.04E-1	-1.14E+1	4.19E+1
HTP-c	CTUh	9.55E-10	6.81E-12	4.64E-11	1.01E-9	6.54E-12	2.59E-10	3.52E-13	-3.53E-10	9.22E-10
HTP-nc	CTUh	3.16E-8	2.30E-10	1.45E-9	3.33E-8	2.19E-10	6.34E-9	3.90E-11	-1.22E-8	2.77E-8
SQP	Pt	5.17E+0	2.04E-1	4.31E-2	5.42E+0	1.94E-1	1.43E+0	3.27E-2	-7.87E+0	-7.97E-1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.74E+0	2.95E-3	2.80E+0	4.54E+0	3.25E-3	1.71E-1	4.76E-4	-1.79E+0	2.92E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.74E+0	2.95E-3	2.80E+0	4.54E+0	3.25E-3	1.71E-1	4.76E-4	-1.79E+0	2.92E+0
PENRE	MJ	3.07E+1	2.50E-1	6.24E-1	3.16E+1	2.40E-1	2.49E+0	1.35E-2	-1.67E+1	1.77E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.07E+1	2.50E-1	6.24E-1	3.16E+1	2.40E-1	2.49E+0	1.35E-2	-1.67E+1	1.77E+1
PET	MJ	3.25E+1	2.53E-1	3.43E+0	3.62E+1	2.43E-1	2.66E+0	1.40E-2	-1.85E+1	2.06E+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	2.13E-2	2.87E-5	1.06E-2	3.18E-2	2.56E-5	2.56E-3	1.56E-5	-1.08E-2	2.37E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.66E-4	5.97E-7	6.13E-7	1.68E-4	5.79E-7	3.81E-6	1.55E-8	-1.30E-5	1.59E-4
NHWD	kg	1.18E-1	1.49E-2	9.46E-4	1.33E-1	1.40E-2	8.43E-2	5.61E-2	-5.11E-2	2.37E-1
RWD	kg	5.66E-5	1.55E-6	1.14E-6	5.93E-5	1.54E-6	8.84E-6	8.29E-8	-2.78E-5	4.19E-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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