Environmental Profile

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

Ecochain v3.5.80

Product:	3009692 - PVC PressurePp DN125 PN12.5 L=6 SC/CH
Unit:	1 piece
Manufacturer:	Wavin - NL - Hardenberg - Verified
Address:	J.C. Kellerlaan 3 7772 SG Hardenberg Netherlands

Our range of PVC pressure pipes offers the right solution for every part of the main network in your sewerage system.

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	5.43	0.12	0.23	5.78	0.08	1.91	0.01	-2.7	5.09
ADPE	kg Sb-eq	3.09E-2	2.48E-5	4.21E-5	3.09E-2	1.80E-5	1.53E-4	1.94E-7	-5.70E-4	3.05E-2
ADPF	kg Sb-eq	5.97E-1	7.14E-3	1.13E-2	6.16E-1	5.06E-3	5.37E-2	2.71E-4	-3.20E-1	3.55E-1
GWP	kg CO2-eq	4.86E+1	9.71E-1	2.01E+0	5.15E+1	6.89E-1	1.89E+1	1.78E-1	-2.70E+1	4.43E+1
ODP	kg CFC-11-eq	2.81E-5	1.72E-7	1.88E-7	2.84E-5	1.28E-7	2.20E-6	6.50E-9	-1.40E-5	1.68E-5
POCP	kg ethene-eq	2.93E-2	5.86E-4	8.83E-4	3.08E-2	4.14E-4	4.19E-3	4.67E-5	-1.37E-2	2.18E-2
AP	kg SO2-eq	1.92E-1	4.27E-3	7.87E-3	2.05E-1	2.97E-3	3.10E-2	1.45E-4	-8.72E-2	1.51E-1
EP	kg PO4 3−-eq	2.32E-2	8.39E-4	1.24E-3	2.52E-2	5.92E-4	4.68E-3	5.75E-5	-1.05E-2	2.01E-2
HTP	kg 1,4-DB-eq	1.90E+1	4.09E-1	7.57E-1	2.02E+1	2.95E-1	8.23E+0	1.50E-2	-8.47E+0	2.03E+1
FAETP	kg 1,4-DB-eq	4.66E-1	1.19E-2	3.08E-2	5.09E-1	8.64E-3	1.23E-1	4.55E-3	-1.85E-1	4.60E-1
MAETP	kg 1,4-DB-eq	1.29E+3	4.29E+1	1.26E+2	1.46E+3	3.09E+1	4.08E+2	5.56E+0	-5.46E+2	1.35E+3
TETP	kg 1,4-DB-eq	1.34E-1	1.44E-3	4.70E-2	1.83E-1	1.04E-3	2.95E-2	5.02E-5	-6.17E-2	1.52E-1
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.84E+1	9.80E-1	2.36E+0	5.18E+1	6.96E-1	2.08E+1	2.07E-1	-2.78E+1	4.57E+1
GWP-f	kg CO2 eq	4.98E+1	9.79E-1	1.85E+0	5.26E+1	6.95E-1	1.90E+1	2.07E-1	-2.76E+1	4.49E+1
GWP-b	kg CO2 eq	-1.37E+0	4.52E-4	4.00E-1	-9.67E-1	4.22E-4	1.77E+0	2.63E-4	-1.92E-1	6.16E-1
GWP-luluc	kg CO2 eq	4.28E-2	3.59E-4	1.13E-1	1.56E-1	2.46E-4	8.37E-3	5.51E-6	-1.81E-2	1.46E-1
ODP	kg CFC11 eq	2.77E-5	2.16E-7	2.24E-7	2.81E-5	1.60E-7	2.27E-6	8.07E-9	-1.38E-5	1.67E-5
AP	mol H+ eq	2.32E-1	5.68E-3	1.01E-2	2.48E-1	3.96E-3	3.88E-2	1.94E-4	-1.05E-1	1.86E-1
EP-fw	kg P eq	2.29E-3	9.88E-6	2.65E-5	2.32E-3	5.72E-6	2.79E-4	2.49E-7	-1.02E-3	1.59E-3
EP-m	kg N eq	3.95E-2	2.00E-3	2.97E-3	4.45E-2	1.42E-3	9.42E-3	1.21E-4	-1.83E-2	3.71E-2
EP-T	mol N eq	4.30E-1	2.21E-2	3.19E-2	4.84E-1	1.56E-2	1.04E-1	7.77E-4	-1.96E-1	4.09E-1
POCP	kg NMVOC eq	1.45E-1	6.30E-3	9.01E-3	1.61E-1	4.46E-3	3.11E-2	2.66E-4	-6.74E-2	1.29E-1
ADP-mm	kg Sb eq	3.09E-2	2.48E-5	4.21E-5	3.09E-2	1.80E-5	1.53E-4	1.94E-7	-5.70E-4	3.05E-2
ADP-f	MJ	1.27E+3	1.48E+1	2.14E+1	1.31E+3	1.07E+1	1.06E+2	5.87E-1	-6.71E+2	7.55E+2
WDP	m3 depriv.	8.36E+1	5.28E-2	1.45E+1	9.81E+1	3.27E-2	4.19E+0	3.53E-3	-3.97E+1	6.27E+1
PM	disease inc.	1.59E-6	8.79E-8	1.57E-7	1.83E-6	6.27E-8	4.82E-7	4.03E-9	-6.75E-7	1.71E-6
IR	kBq U-235 eq	2.81E+0	6.19E-2	3.87E-2	2.91E+0	4.66E-2	3.72E-1	2.69E-3	-1.28E+0	2.05E+0
ETP-fw	CTUe	1.10E+3	1.32E+1	3.57E+1	1.15E+3	8.66E+0	8.10E+2	8.95E+0	-3.91E+2	1.58E+3
HTP-c	CTUh	3.85E-8	4.27E-10	1.22E-9	4.02E-8	3.08E-10	1.17E-8	1.57E-11	-1.47E-8	3.76E-8
HTP-nc	CTUh	1.25E-6	1.44E-8	3.73E-8	1.31E-6	1.03E-8	2.83E-7	1.72E-9	-5.06E-7	1.09E-6
SQP	Pt	3.28E+2	1.28E+1	1.60E+0	3.42E+2	9.13E+0	6.58E+1	1.49E+0	-1.06E+2	3.13E+2

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.74E+1	1.85E-1	6.46E+1	1.52E+2	1.53E-1	7.67E+0	2.15E-2	-3.58E+1	1.24E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.74E+1	1.85E-1	6.46E+1	1.52E+2	1.53E-1	7.67E+0	2.15E-2	-3.58E+1	1.24E+2
PENRE	MJ	1.36E+3	1.57E+1	2.32E+1	1.40E+3	1.13E+1	1.13E+2	6.22E-1	-7.22E+2	8.06E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.36E+3	1.57E+1	2.32E+1	1.40E+3	1.13E+1	1.13E+2	6.22E-1	-7.22E+2	8.06E+2
PET	MJ	1.45E+3	1.59E+1	8.78E+1	1.56E+3	1.15E+1	1.21E+2	6.44E-1	-7.58E+2	9.30E+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	9.13E-1	1.80E-3	3.41E-1	1.26E+0	1.21E-3	1.15E-1	7.19E-4	-4.15E-1	9.58E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.72E-3	3.74E-5	3.00E-5	4.79E-3	2.73E-5	1.71E-4	7.10E-7	-5.58E-4	4.43E-3
NHWD	kg	4.94E+0	9.37E-1	4.33E-2	5.92E+0	6.61E-1	3.91E+0	2.65E+0	-2.13E+0	1.10E+1
RWD	kg	2.47E-3	9.70E-5	5.39E-5	2.62E-3	7.25E-5	3.98E-4	3.83E-6	-1.13E-3	1.96E-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