Environmental Profile

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

Ecochain v3.5.80

Product:	3001255 - Wafix PVC Repair Socket GY 110 SN8
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	0.05	0	0	0.06	0	0.02	0	-0.03	0.05
ADPE	kg Sb-eq	3.79E-4	1.82E-7	7.90E-7	3.80E-4	1.58E-7	1.27E-6	1.76E-9	-4.91E-6	3.77E-4
ADPF	kg Sb-eq	6.30E-3	5.22E-5	1.36E-4	6.49E-3	4.45E-5	4.45E-4	2.44E-6	-3.32E-3	3.66E-3
GWP	kg CO2-eq	4.80E-1	7.11E-3	2.58E-2	5.13E-1	6.06E-3	1.74E-1	1.85E-3	-2.70E-1	4.25E-1
ODP	kg CFC-11-eq	2.11E-7	1.26E-9	2.04E-9	2.14E-7	1.12E-9	1.65E-8	5.83E-11	-1.14E-7	1.18E-7
POCP	kg ethene-eq	3.31E-4	4.29E-6	1.12E-5	3.46E-4	3.64E-6	3.67E-5	4.62E-7	-1.47E-4	2.40E-4
AP	kg SO2-eq	1.90E-3	3.12E-5	1.11E-4	2.04E-3	2.61E-5	2.54E-4	1.31E-6	-8.80E-4	1.44E-3
EP	kg PO4 3−-eq	2.36E-4	6.14E-6	1.42E-5	2.56E-4	5.21E-6	3.97E-5	6.17E-7	-1.16E-4	1.86E-4
HTP	kg 1,4-DB-eq	1.73E-1	2.99E-3	1.20E-2	1.88E-1	2.59E-3	7.11E-2	1.47E-4	-7.85E-2	1.83E-1
FAETP	kg 1,4-DB-eq	5.10E-3	8.73E-5	4.09E-4	5.60E-3	7.59E-5	1.13E-3	7.09E-5	-2.23E-3	4.65E-3
MAETP	kg 1,4-DB-eq	1.22E+1	3.14E-1	1.61E+0	1.42E+1	2.71E-1	3.62E+0	7.83E-2	-5.06E+0	1.31E+1
TETP	kg 1,4-DB-eq	1.16E-3	1.06E-5	8.90E-4	2.06E-3	9.18E-6	2.47E-4	4.41E-7	-7.33E-4	1.58E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.96E-1	7.17E-3	2.95E-2	5.33E-1	6.11E-3	1.85E-1	2.16E-3	-2.55E-1	4.72E-1
GWP-f	kg CO2 eq	4.93E-1	7.17E-3	2.27E-2	5.22E-1	6.11E-3	1.75E-1	2.16E-3	-2.76E-1	4.29E-1
GWP-b	kg CO2 eq	3.17E-3	3.31E-6	4.68E-3	7.85E-3	3.71E-6	1.01E-2	2.48E-6	2.19E-2	3.99E-2
GWP-luluc	kg CO2 eq	4.97E-4	2.63E-6	2.15E-3	2.65E-3	2.16E-6	6.63E-5	5.06E-8	-3.14E-4	2.41E-3
ODP	kg CFC11 eq	2.10E-7	1.58E-9	2.40E-9	2.14E-7	1.41E-9	1.71E-8	7.23E-11	-1.13E-7	1.20E-7
AP	mol H+ eq	2.30E-3	4.16E-5	1.38E-4	2.48E-3	3.48E-5	3.21E-4	1.76E-6	-1.07E-3	1.78E-3
EP-fw	kg P eq	2.08E-5	7.23E-8	3.97E-7	2.13E-5	5.03E-8	2.18E-6	2.30E-9	-1.06E-5	1.30E-5
EP-m	kg N eq	4.03E-4	1.46E-5	3.26E-5	4.51E-4	1.24E-5	8.09E-5	1.30E-6	-1.91E-4	3.54E-4
EP-T	mol N eq	4.39E-3	1.61E-4	3.60E-4	4.91E-3	1.37E-4	8.91E-4	7.02E-6	-2.07E-3	3.88E-3
POCP	kg NMVOC eq	1.55E-3	4.61E-5	1.02E-4	1.70E-3	3.92E-5	2.69E-4	2.47E-6	-7.17E-4	1.29E-3
ADP-mm	kg Sb eq	3.79E-4	1.82E-7	7.90E-7	3.80E-4	1.58E-7	1.27E-6	1.76E-9	-4.91E-6	3.77E-4
ADP-f	MJ	1.34E+1	1.08E-1	2.53E-1	1.38E+1	9.37E-2	8.86E-1	5.28E-3	-6.98E+0	7.76E+0
WDP	m3 depriv.	6.83E-1	3.87E-4	1.96E-1	8.80E-1	2.88E-4	3.20E-2	3.19E-5	-3.73E-1	5.39E-1
PM	disease inc.	1.78E-8	6.43E-10	1.71E-9	2.02E-8	5.51E-10	4.16E-9	3.63E-11	-8.53E-9	1.64E-8
IR	kBq U-235 eq	2.76E-2	4.53E-4	4.03E-4	2.85E-2	4.10E-4	3.06E-3	2.44E-5	-1.22E-2	1.97E-2
ETP-fw	CTUe	1.31E+1	9.64E-2	5.89E-1	1.38E+1	7.61E-2	5.87E+0	6.43E-2	-4.98E+0	1.49E+1
HTP-c	CTUh	3.46E-10	3.13E-12	2.04E-11	3.69E-10	2.71E-12	1.01E-10	1.42E-13	-1.36E-10	3.37E-10
HTP-nc	CTUh	1.11E-8	1.05E-10	6.36E-10	1.18E-8	9.07E-11	2.22E-9	1.29E-11	-4.66E-9	9.46E-9
SQP	Pt	2.53E+0	9.37E-2	1.89E-2	2.64E+0	8.02E-2	5.69E-1	1.35E-2	-4.83E+0	-1.52E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.53E-1	1.35E-3	1.23E+0	1.99E+0	1.34E-3	6.04E-2	2.03E-4	-1.01E+0	1.04E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.53E-1	1.35E-3	1.23E+0	1.99E+0	1.34E-3	6.04E-2	2.03E-4	-1.01E+0	1.04E+0
PENRE	MJ	1.44E+1	1.15E-1	2.74E-1	1.47E+1	9.95E-2	9.43E-1	5.61E-3	-7.51E+0	8.28E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.44E+1	1.15E-1	2.74E-1	1.47E+1	9.95E-2	9.43E-1	5.61E-3	-7.51E+0	8.28E+0
PET	MJ	1.51E+1	1.16E-1	1.51E+0	1.67E+1	1.01E-1	1.00E+0	5.81E-3	-8.52E+0	9.31E+0
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	8.50E-3	1.32E-5	4.64E-3	1.31E-2	1.06E-5	8.94E-4	6.49E-6	-4.54E-3	9.52E-3
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.26E-5	2.74E-7	2.69E-7	5.31E-5	2.40E-7	1.46E-6	6.41E-9	-5.00E-6	4.98E-5
NHWD	kg	4.53E-2	6.85E-3	4.15E-4	5.26E-2	5.81E-3	3.42E-2	2.32E-2	-1.97E-2	9.61E-2
RWD	kg	2.64E-5	7.10E-7	4.99E-7	2.76E-5	6.38E-7	3.38E-6	3.44E-8	-1.09E-5	2.07E-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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