Environmental Profile

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

Ecochain v3.5.80

Product:	3001475 - PVC Cap for Spigot GY 400
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	0.37	0.01	0.02	0.4	0.01	0.12	0	-0.19	0.34
ADPE	kg Sb-eq	3.46E-3	1.18E-6	5.27E-6	3.46E-3	1.14E-6	1.02E-5	1.27E-8	-3.91E-5	3.44E-3
ADPF	kg Sb-eq	4.01E-2	3.40E-4	9.06E-4	4.13E-2	3.20E-4	3.53E-3	1.76E-5	-2.20E-2	2.32E-2
GWP	kg CO2-eq	3.34E+0	4.62E-2	1.72E-1	3.55E+0	4.36E-2	1.21E+0	1.20E-2	-1.87E+0	2.95E+0
ODP	kg CFC-11-eq	1.91E-6	8.20E-9	1.36E-8	1.93E-6	8.08E-9	1.49E-7	4.19E-10	-9.61E-7	1.13E-6
POCP	kg ethene-eq	1.92E-3	2.79E-5	7.47E-5	2.02E-3	2.61E-5	2.77E-4	3.10E-6	-9.65E-4	1.36E-3
AP	kg SO2-eq	1.34E-2	2.03E-4	7.39E-4	1.43E-2	1.87E-4	2.06E-3	9.46E-6	-6.29E-3	1.03E-2
EP	kg PO4 3−-eq	1.68E-3	3.99E-5	9.50E-5	1.82E-3	3.74E-5	3.10E-4	3.73E-6	-8.17E-4	1.35E-3
HTP	kg 1,4-DB-eq	1.31E+0	1.95E-2	7.98E-2	1.41E+0	1.86E-2	5.37E-1	9.93E-4	-6.05E-1	1.36E+0
FAETP	kg 1,4-DB-eq	3.79E-2	5.68E-4	2.73E-3	4.12E-2	5.46E-4	8.12E-3	3.06E-4	-1.57E-2	3.45E-2
MAETP	kg 1,4-DB-eq	9.22E+1	2.04E+0	1.07E+1	1.05E+2	1.95E+0	2.78E+1	3.74E-1	-3.91E+1	9.60E+1
TETP	kg 1,4-DB-eq	9.60E-3	6.88E-5	5.94E-3	1.56E-2	6.60E-5	1.92E-3	3.34E-6	-5.24E-3	1.24E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.45E+0	4.67E-2	1.97E-1	3.69E+0	4.39E-2	1.26E+0	1.39E-2	-1.82E+0	3.20E+0
GWP-f	kg CO2 eq	3.41E+0	4.66E-2	1.51E-1	3.61E+0	4.39E-2	1.22E+0	1.39E-2	-1.91E+0	2.97E+0
GWP-b	kg CO2 eq	3.38E-2	2.15E-5	3.12E-2	6.50E-2	2.67E-5	4.65E-2	1.76E-5	9.61E-2	2.08E-1
GWP-luluc	kg CO2 eq	3.57E-3	1.71E-5	1.43E-2	1.79E-2	1.55E-5	5.53E-4	3.66E-7	-1.97E-3	1.65E-2
ODP	kg CFC11 eq	1.88E-6	1.03E-8	1.60E-8	1.91E-6	1.01E-8	1.53E-7	5.20E-10	-9.51E-7	1.12E-6
AP	mol H+ eq	1.63E-2	2.70E-4	9.21E-4	1.74E-2	2.50E-4	2.58E-3	1.27E-5	-7.60E-3	1.27E-2
EP-fw	kg P eq	1.64E-4	4.70E-7	2.65E-6	1.67E-4	3.61E-7	1.85E-5	1.66E-8	-7.87E-5	1.08E-4
EP-m	kg N eq	2.86E-3	9.53E-5	2.18E-4	3.18E-3	8.95E-5	6.26E-4	7.84E-6	-1.34E-3	2.56E-3
EP-T	mol N eq	3.10E-2	1.05E-3	2.40E-3	3.44E-2	9.86E-4	6.90E-3	5.05E-5	-1.44E-2	2.80E-2
POCP	kg NMVOC eq	1.00E-2	3.00E-4	6.83E-4	1.10E-2	2.82E-4	2.06E-3	1.74E-5	-4.85E-3	8.50E-3
ADP-mm	kg Sb eq	3.46E-3	1.18E-6	5.27E-6	3.46E-3	1.14E-6	1.02E-5	1.27E-8	-3.91E-5	3.44E-3
ADP-f	MJ	8.54E+1	7.03E-1	1.69E+0	8.78E+1	6.74E-1	6.98E+0	3.80E-2	-4.62E+1	4.93E+1
WDP	m3 depriv.	5.70E+0	2.52E-3	1.31E+0	7.01E+0	2.07E-3	2.79E-1	2.46E-4	-2.86E+0	4.43E+0
PM	disease inc.	1.07E-7	4.19E-9	1.14E-8	1.23E-7	3.96E-9	3.18E-8	2.61E-10	-5.51E-8	1.03E-7
IR	kBq U-235 eq	1.95E-1	2.95E-3	2.69E-3	2.01E-1	2.95E-3	2.47E-2	1.75E-4	-9.39E-2	1.34E-1
ETP-fw	CTUe	9.86E+1	6.27E-1	3.92E+0	1.03E+2	5.47E-1	5.48E+1	6.06E-1	-3.43E+1	1.25E+2
HTP-c	CTUh	2.85E-9	2.03E-11	1.36E-10	3.00E-9	1.95E-11	7.74E-10	1.05E-12	-1.05E-9	2.74E-9
HTP-nc	CTUh	9.43E-8	6.86E-10	4.24E-9	9.92E-8	6.52E-10	1.89E-8	1.16E-10	-3.65E-8	8.24E-8
SQP	Pt	1.56E+1	6.10E-1	1.26E-1	1.63E+1	5.77E-1	4.26E+0	9.73E-2	-2.44E+1	-3.11E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.21E+0	8.80E-3	8.21E+0	1.34E+1	9.67E-3	5.08E-1	1.42E-3	-5.51E+0	8.44E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.21E+0	8.80E-3	8.21E+0	1.34E+1	9.67E-3	5.08E-1	1.42E-3	-5.51E+0	8.44E+0
PENRE	MJ	9.16E+1	7.47E-1	1.83E+0	9.42E+1	7.16E-1	7.43E+0	4.03E-2	-4.98E+1	5.26E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.16E+1	7.47E-1	1.83E+0	9.42E+1	7.16E-1	7.43E+0	4.03E-2	-4.98E+1	5.26E+1
PET	MJ	9.68E+1	7.55E-1	1.00E+1	1.08E+2	7.25E-1	7.94E+0	4.17E-2	-5.53E+1	6.10E+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	6.34E-2	8.56E-5	3.09E-2	9.44E-2	7.63E-5	7.63E-3	4.65E-5	-3.23E-2	6.98E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.96E-4	1.78E-6	1.79E-6	4.99E-4	1.72E-6	1.14E-5	4.63E-8	-3.89E-5	4.74E-4
NHWD	kg	3.51E-1	4.46E-2	2.77E-3	3.98E-1	4.18E-2	2.51E-1	1.67E-1	-1.53E-1	7.05E-1
RWD	kg	1.69E-4	4.62E-6	3.32E-6	1.77E-4	4.58E-6	2.63E-5	2.47E-7	-8.32E-5	1.25E-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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