Environmental Profile

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

Ecochain v3.5.80

Product:	3001473 - PVC Cap for Spigot DGY 315
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	0.21	0	0.01	0.23	0	0.07	0	-0.11	0.19
ADPE	kg Sb-eq	6.31E-5	5.21E-7	2.98E-6	6.66E-5	6.54E-7	5.98E-6	7.13E-9	-2.25E-5	5.08E-5
ADPF	kg Sb-eq	2.29E-2	1.50E-4	5.12E-4	2.35E-2	1.84E-4	2.07E-3	1.00E-5	-1.27E-2	1.31E-2
GWP	kg CO2-eq	1.91E+0	2.04E-2	9.71E-2	2.03E+0	2.51E-2	6.94E-1	6.74E-3	-1.08E+0	1.68E+0
ODP	kg CFC-11-eq	1.10E-6	3.62E-9	7.68E-9	1.11E-6	4.65E-9	8.89E-8	2.41E-10	-5.53E-7	6.48E-7
POCP	kg ethene-eq	1.10E-3	1.23E-5	4.22E-5	1.15E-3	1.50E-5	1.61E-4	1.76E-6	-5.54E-4	7.78E-4
AP	kg SO2-eq	7.56E-3	8.96E-5	4.18E-4	8.06E-3	1.08E-4	1.21E-3	5.39E-6	-3.60E-3	5.78E-3
EP	kg PO4 3−-eq	9.36E-4	1.76E-5	5.37E-5	1.01E-3	2.15E-5	1.81E-4	2.17E-6	-4.65E-4	7.48E-4
HTP	kg 1,4-DB-eq	7.18E-1	8.58E-3	4.51E-2	7.72E-1	1.07E-2	3.12E-1	5.71E-4	-3.47E-1	7.48E-1
FAETP	kg 1,4-DB-eq	1.98E-2	2.50E-4	1.54E-3	2.16E-2	3.14E-4	4.69E-3	1.74E-4	-8.89E-3	1.79E-2
MAETP	kg 1,4-DB-eq	4.94E+1	9.01E-1	6.07E+0	5.63E+1	1.12E+0	1.61E+1	2.11E-1	-2.24E+1	5.13E+1
TETP	kg 1,4-DB-eq	5.27E-3	3.03E-5	3.36E-3	8.66E-3	3.80E-5	1.12E-3	1.92E-6	-2.97E-3	6.85E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.98E+0	2.06E-2	1.11E-1	2.11E+0	2.53E-2	7.24E-1	7.86E-3	-1.05E+0	1.81E+0
GWP-f	kg CO2 eq	1.96E+0	2.06E-2	8.54E-2	2.07E+0	2.53E-2	6.99E-1	7.86E-3	-1.10E+0	1.69E+0
GWP-b	kg CO2 eq	1.64E-2	9.49E-6	1.76E-2	3.41E-2	1.53E-5	2.45E-2	1.02E-5	5.01E-2	1.09E-1
GWP-luluc	kg CO2 eq	1.83E-3	7.53E-6	8.11E-3	9.94E-3	8.94E-6	3.27E-4	1.99E-7	-1.10E-3	9.18E-3
ODP	kg CFC11 eq	1.08E-6	4.54E-9	9.03E-9	1.09E-6	5.82E-9	9.13E-8	2.98E-10	-5.48E-7	6.44E-7
AP	mol H+ eq	9.14E-3	1.19E-4	5.21E-4	9.78E-3	1.44E-4	1.51E-3	7.22E-6	-4.35E-3	7.09E-3
EP-fw	kg P eq	8.76E-5	2.07E-7	1.50E-6	8.93E-5	2.08E-7	1.10E-5	9.15E-9	-4.48E-5	5.57E-5
EP-m	kg N eq	1.55E-3	4.20E-5	1.23E-4	1.71E-3	5.15E-5	3.66E-4	4.59E-6	-7.68E-4	1.37E-3
EP-T	mol N eq	1.67E-2	4.63E-4	1.36E-3	1.86E-2	5.68E-4	4.03E-3	2.89E-5	-8.22E-3	1.50E-2
POCP	kg NMVOC eq	5.50E-3	1.32E-4	3.86E-4	6.02E-3	1.62E-4	1.20E-3	9.91E-6	-2.78E-3	4.62E-3
ADP-mm	kg Sb eq	6.31E-5	5.21E-7	2.98E-6	6.66E-5	6.54E-7	5.98E-6	7.13E-9	-2.25E-5	5.08E-5
ADP-f	MJ	4.86E+1	3.10E-1	9.55E-1	4.99E+1	3.88E-1	4.08E+0	2.18E-2	-2.66E+1	2.77E+1
WDP	m3 depriv.	3.25E+0	1.11E-3	7.39E-1	3.99E+0	1.19E-3	1.66E-1	9.95E-5	-1.64E+0	2.51E+0
PM	disease inc.	6.28E-8	1.85E-9	6.43E-9	7.11E-8	2.28E-9	1.85E-8	1.50E-10	-3.13E-8	6.08E-8
IR	kBq U-235 eq	1.06E-1	1.30E-3	1.52E-3	1.09E-1	1.70E-3	1.45E-2	1.01E-4	-5.38E-2	7.12E-2
ETP-fw	CTUe	4.02E+1	2.76E-1	2.22E+0	4.27E+1	3.15E-1	3.29E+1	3.65E-1	-1.93E+1	5.69E+1
HTP-c	CTUh	1.28E-9	8.96E-12	7.68E-11	1.36E-9	1.12E-11	4.25E-10	5.73E-13	-6.04E-10	1.19E-9
HTP-nc	CTUh	4.31E-8	3.02E-10	2.40E-9	4.58E-8	3.75E-10	1.11E-8	6.93E-11	-2.09E-8	3.65E-8
SQP	Pt	8.48E+0	2.69E-1	7.14E-2	8.82E+0	3.32E-1	2.47E+0	5.60E-2	-1.31E+1	-1.43E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.84E+0	3.88E-3	4.64E+0	7.49E+0	5.56E-3	3.00E-1	8.35E-4	-3.00E+0	4.79E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.84E+0	3.88E-3	4.64E+0	7.49E+0	5.56E-3	3.00E-1	8.35E-4	-3.00E+0	4.79E+0
PENRE	MJ	5.21E+1	3.29E-1	1.03E+0	5.35E+1	4.12E-1	4.35E+0	2.31E-2	-2.87E+1	2.96E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.21E+1	3.29E-1	1.03E+0	5.35E+1	4.12E-1	4.35E+0	2.31E-2	-2.87E+1	2.96E+1
PET	MJ	5.50E+1	3.33E-1	5.68E+0	6.10E+1	4.17E-1	4.65E+0	2.39E-2	-3.17E+1	3.44E+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	3.54E-2	3.77E-5	1.75E-2	5.29E-2	4.39E-5	4.53E-3	2.69E-5	-1.84E-2	3.91E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.06E-5	7.85E-7	1.01E-6	4.24E-5	9.92E-7	6.61E-6	2.61E-8	-2.24E-5	2.77E-5
NHWD	kg	2.01E-1	1.97E-2	1.57E-3	2.22E-1	2.40E-2	1.45E-1	9.61E-2	-8.75E-2	4.00E-1
RWD	kg	9.31E-5	2.04E-6	1.88E-6	9.70E-5	2.64E-6	1.54E-5	1.42E-7	-4.76E-5	6.76E-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