

Environmental Profile

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

Ecochain v3.5.80



Product: 3002851 - PVC Pipe GY BENOR 75x3 L=4 CH
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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage												Benefits and loads beyond the system boundaries				
A4 Transport gate to site A5 Assembly / Construction installation process												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

This document and supporting material contain confidential and proprietary business information of Wavin - NL - Hardenberg - Verified. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - NL - Hardenberg - Verified.

Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.84	0.02	0.04	0.9	0.01	0.3	0	-0.42	0.8
ADPE	kg Sb-eq	2.13E-4	4.70E-6	6.96E-6	2.25E-4	2.97E-6	2.49E-5	3.11E-8	-8.93E-5	1.64E-4
ADPF	kg Sb-eq	9.42E-2	1.35E-3	1.86E-3	9.74E-2	8.36E-4	8.77E-3	4.39E-5	-5.02E-2	5.68E-2
GWP	kg CO2-eq	7.59E+0	1.84E-1	3.31E-1	8.11E+0	1.14E-1	2.91E+0	2.78E-2	-4.23E+0	6.93E+0
ODP	kg CFC-11-eq	4.46E-6	3.27E-8	3.11E-8	4.53E-6	2.11E-8	3.55E-7	1.05E-9	-2.22E-6	2.69E-6
POCP	kg ethene-eq	4.64E-3	1.11E-4	1.46E-4	4.89E-3	6.83E-5	6.87E-4	7.39E-6	-2.15E-3	3.50E-3
AP	kg SO2-eq	2.93E-2	8.10E-4	1.30E-3	3.14E-2	4.90E-4	5.03E-3	2.34E-5	-1.38E-2	2.31E-2
EP	kg PO4 3--eq	3.48E-3	1.59E-4	2.05E-4	3.85E-3	9.79E-5	7.59E-4	9.01E-6	-1.66E-3	3.05E-3
HTP	kg 1,4-DB-eq	2.99E+0	7.75E-2	1.25E-1	3.19E+0	4.87E-2	1.35E+0	2.40E-3	-1.34E+0	3.25E+0
FAETP	kg 1,4-DB-eq	6.43E-2	2.26E-3	5.09E-3	7.16E-2	1.43E-3	1.99E-2	7.10E-4	-2.94E-2	6.43E-2
MAETP	kg 1,4-DB-eq	1.87E+2	8.14E+0	2.08E+1	2.16E+2	5.10E+0	6.58E+1	8.72E-1	-8.66E+1	2.02E+2
TETP	kg 1,4-DB-eq	2.06E-2	2.74E-4	7.77E-3	2.87E-2	1.73E-4	4.83E-3	7.97E-6	-9.78E-3	2.39E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.59E+0	1.86E-1	3.90E-1	8.16E+0	1.15E-1	3.20E+0	3.24E-2	-4.36E+0	7.15E+0
GWP-f	kg CO2 eq	7.79E+0	1.86E-1	3.06E-1	8.28E+0	1.15E-1	2.93E+0	3.24E-2	-4.32E+0	7.03E+0
GWP-b	kg CO2 eq	-2.05E-1	8.57E-5	6.61E-2	-1.39E-1	6.97E-5	2.66E-1	4.17E-5	-3.05E-2	9.67E-2
GWP-luluc	kg CO2 eq	6.18E-3	6.80E-5	1.86E-2	2.49E-2	4.06E-5	1.36E-3	8.77E-7	-2.87E-3	2.34E-2
ODP	kg CFC11 eq	4.40E-6	4.10E-8	3.69E-8	4.48E-6	2.65E-8	3.66E-7	1.31E-9	-2.19E-6	2.68E-6
AP	mol H+ eq	3.53E-2	1.08E-3	1.67E-3	3.80E-2	6.54E-4	6.30E-3	3.13E-5	-1.66E-2	2.84E-2
EP-fw	kg P eq	3.45E-4	1.87E-6	4.37E-6	3.51E-4	9.45E-7	4.52E-5	3.96E-8	-1.62E-4	2.35E-4
EP-m	kg N eq	5.92E-3	3.79E-4	4.91E-4	6.79E-3	2.34E-4	1.53E-3	1.91E-5	-2.89E-3	5.68E-3
EP-T	mol N eq	6.40E-2	4.18E-3	5.27E-3	7.34E-2	2.58E-3	1.69E-2	1.25E-4	-3.09E-2	6.21E-2
POCP	kg NMVOC eq	2.21E-2	1.19E-3	1.49E-3	2.48E-2	7.37E-4	5.06E-3	4.26E-5	-1.06E-2	2.00E-2
ADP-mm	kg Sb eq	2.13E-4	4.70E-6	6.96E-6	2.25E-4	2.97E-6	2.49E-5	3.11E-8	-8.93E-5	1.64E-4
ADP-f	MJ	2.00E+2	2.80E+0	3.54E+0	2.07E+2	1.76E+0	1.74E+1	9.48E-2	-1.05E+2	1.20E+2
WDP	m3 depriv.	1.32E+1	1.00E-2	2.39E+0	1.56E+1	5.41E-3	6.76E-1	5.46E-4	-6.30E+0	9.96E+0
PM	disease inc.	2.44E-7	1.67E-8	2.59E-8	2.87E-7	1.04E-8	7.91E-8	6.50E-10	-1.07E-7	2.70E-7
IR	kBq U-235 eq	4.24E-1	1.17E-2	6.39E-3	4.42E-1	7.70E-3	6.06E-2	4.35E-4	-2.03E-1	3.08E-1
ETP-fw	CTUe	1.34E+2	2.50E+0	5.90E+0	1.43E+2	1.43E+0	1.30E+2	1.43E+0	-6.21E+1	2.13E+2
HTP-c	CTUh	5.31E-9	8.10E-11	2.01E-10	5.59E-9	5.09E-11	1.89E-9	2.48E-12	-2.32E-9	5.22E-9
HTP-nc	CTUh	1.69E-7	2.73E-9	6.16E-9	1.78E-7	1.71E-9	4.57E-8	2.75E-10	-8.03E-8	1.46E-7
SQP	Pt	4.88E+1	2.43E+0	2.65E-1	5.15E+1	1.51E+0	1.08E+1	2.41E-1	-1.64E+1	4.77E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.33E+1	3.51E-2	1.07E+1	2.40E+1	2.53E-2	1.24E+0	3.42E-3	-5.63E+0	1.96E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.33E+1	3.51E-2	1.07E+1	2.40E+1	2.53E-2	1.24E+0	3.42E-3	-5.63E+0	1.96E+1
PENRE	MJ	2.15E+2	2.97E+0	3.84E+0	2.22E+2	1.87E+0	1.85E+1	1.01E-1	-1.13E+2	1.29E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.15E+2	2.97E+0	3.84E+0	2.22E+2	1.87E+0	1.85E+1	1.01E-1	-1.13E+2	1.29E+2
PET	MJ	2.28E+2	3.01E+0	1.45E+1	2.46E+2	1.90E+0	1.97E+1	1.04E-1	-1.19E+2	1.48E+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	1.40E-1	3.41E-4	5.64E-2	1.97E-1	1.99E-4	1.85E-2	1.16E-4	-6.58E-2	1.50E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.59E-4	7.10E-6	4.96E-6	1.71E-4	4.51E-6	2.79E-5	1.14E-7	-8.74E-5	1.16E-4
NHWD	kg	7.54E-1	1.78E-1	7.15E-3	9.39E-1	1.09E-1	6.41E-1	4.36E-1	-3.37E-1	1.79E+0
RWD	kg	3.72E-4	1.84E-5	8.90E-6	3.99E-4	1.20E-5	6.51E-5	6.19E-7	-1.79E-4	2.97E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777