

Environmental Profile

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

Ecochain v3.5.80



Product: 3001316 - Wafix PVC Branch 88° GY 125 SN4 S/SP

Unit: 1 piece

Manufacturer: Wavin - NL - Hardenberg - Verified

Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

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



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.

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 P04 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 [CTUh]; **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	0.19	0	0.01	0.2	0	0.06	0	-0.1	0.17
ADPE	kg Sb-eq	1.60E-3	6.26E-7	2.65E-6	1.60E-3	5.72E-7	4.95E-6	6.38E-9	-1.91E-5	1.59E-3
ADPF	kg Sb-eq	2.13E-2	1.80E-4	4.55E-4	2.19E-2	1.61E-4	1.72E-3	8.84E-6	-1.15E-2	1.23E-2
GWP	kg CO2-eq	1.72E+0	2.45E-2	8.63E-2	1.83E+0	2.19E-2	6.18E-1	6.28E-3	-9.63E-1	1.51E+0
ODP	kg CFC-11-eq	8.87E-7	4.35E-9	6.83E-9	8.98E-7	4.07E-9	6.92E-8	2.11E-10	-4.58E-7	5.13E-7
POCP	kg ethene-eq	1.06E-3	1.48E-5	3.75E-5	1.11E-3	1.32E-5	1.38E-4	1.60E-6	-5.10E-4	7.57E-4
AP	kg SO2-eq	6.85E-3	1.08E-4	3.71E-4	7.32E-3	9.44E-5	9.96E-4	4.76E-6	-3.23E-3	5.19E-3
EP	kg PO4 3--eq	8.66E-4	2.12E-5	4.77E-5	9.35E-4	1.89E-5	1.53E-4	2.02E-6	-4.30E-4	6.79E-4
HTP	kg 1,4-DB-eq	6.50E-1	1.03E-2	4.01E-2	7.01E-1	9.38E-3	2.66E-1	5.13E-4	-3.01E-1	6.76E-1
FAETP	kg 1,4-DB-eq	1.94E-2	3.01E-4	1.37E-3	2.11E-2	2.75E-4	4.12E-3	1.93E-4	-8.38E-3	1.73E-2
MAETP	kg 1,4-DB-eq	4.60E+1	1.08E+0	5.40E+0	5.25E+1	9.82E-1	1.38E+1	2.24E-1	-1.94E+1	4.80E+1
TETP	kg 1,4-DB-eq	4.64E-3	3.65E-5	2.98E-3	7.66E-3	3.32E-5	9.41E-4	1.65E-6	-2.78E-3	5.86E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.77E+0	2.47E-2	9.88E-2	1.90E+0	2.21E-2	6.57E-1	7.33E-3	-9.12E-1	1.67E+0
GWP-f	kg CO2 eq	1.76E+0	2.47E-2	7.59E-2	1.86E+0	2.21E-2	6.22E-1	7.33E-3	-9.86E-1	1.52E+0
GWP-b	kg CO2 eq	1.50E-2	1.14E-5	1.57E-2	3.07E-2	1.34E-5	3.45E-2	8.91E-6	7.41E-2	1.39E-1
GWP-luluc	kg CO2 eq	1.88E-3	9.05E-6	7.21E-3	9.09E-3	7.83E-6	2.64E-4	1.84E-7	-1.15E-3	8.22E-3
ODP	kg CFC11 eq	8.78E-7	5.45E-9	8.02E-9	8.92E-7	5.10E-9	7.15E-8	2.62E-10	-4.53E-7	5.15E-7
AP	mol H+ eq	8.32E-3	1.43E-4	4.63E-4	8.93E-3	1.26E-4	1.25E-3	6.37E-6	-3.90E-3	6.41E-3
EP-fw	kg P eq	8.09E-5	2.49E-7	1.33E-6	8.24E-5	1.82E-7	8.79E-6	8.33E-9	-4.03E-5	5.11E-5
EP-m	kg N eq	1.47E-3	5.05E-5	1.09E-4	1.63E-3	4.51E-5	3.09E-4	4.26E-6	-6.97E-4	1.29E-3
EP-T	mol N eq	1.59E-2	5.57E-4	1.21E-3	1.77E-2	4.97E-4	3.40E-3	2.54E-5	-7.51E-3	1.41E-2
POCP	kg NMVOC eq	5.32E-3	1.59E-4	3.43E-4	5.82E-3	1.42E-4	1.02E-3	8.82E-6	-2.55E-3	4.45E-3
ADP-mm	kg Sb eq	1.60E-3	6.26E-7	2.65E-6	1.60E-3	5.72E-7	4.95E-6	6.38E-9	-1.91E-5	1.59E-3
ADP-f	MJ	4.53E+1	3.73E-1	8.49E-1	4.65E+1	3.39E-1	3.41E+0	1.91E-2	-2.42E+1	2.61E+1
WDP	m3 depriv.	2.72E+0	1.33E-3	6.57E-1	3.38E+0	1.04E-3	1.31E-1	1.21E-4	-1.43E+0	2.09E+0
PM	disease inc.	5.92E-8	2.22E-9	5.72E-9	6.71E-8	2.00E-9	1.57E-8	1.32E-10	-3.03E-8	5.47E-8
IR	kBq U-235 eq	9.98E-2	1.56E-3	1.35E-3	1.03E-1	1.48E-3	1.20E-2	8.81E-5	-4.70E-2	6.92E-2
ETP-fw	CTUe	5.06E+1	3.32E-1	1.97E+0	5.29E+1	2.76E-1	2.52E+1	2.77E-1	-1.86E+1	6.00E+1
HTP-c	CTUh	1.37E-9	1.08E-11	6.82E-11	1.45E-9	9.81E-12	3.82E-10	5.24E-13	-5.25E-10	1.32E-9
HTP-nc	CTUh	4.48E-8	3.63E-10	2.13E-9	4.73E-8	3.29E-10	8.97E-9	5.39E-11	-1.81E-8	3.86E-8
SQP	Pt	8.92E+0	3.23E-1	6.35E-2	9.31E+0	2.90E-1	2.12E+0	4.90E-2	-1.68E+1	-4.99E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.78E+0	4.66E-3	4.13E+0	6.91E+0	4.87E-3	2.42E-1	7.22E-4	-3.57E+0	3.59E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.78E+0	4.66E-3	4.13E+0	6.91E+0	4.87E-3	2.42E-1	7.22E-4	-3.57E+0	3.59E+0
PENRE	MJ	4.86E+1	3.96E-1	9.18E-1	4.99E+1	3.60E-1	3.63E+0	2.03E-2	-2.60E+1	2.79E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.86E+1	3.96E-1	9.18E-1	4.99E+1	3.60E-1	3.63E+0	2.03E-2	-2.60E+1	2.79E+1
PET	MJ	5.14E+1	4.00E-1	5.04E+0	5.68E+1	3.65E-1	3.87E+0	2.10E-2	-2.96E+1	3.15E+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	3.17E-2	4.54E-5	1.55E-2	4.72E-2	3.84E-5	3.61E-3	2.35E-5	-1.69E-2	3.41E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.27E-4	9.44E-7	9.01E-7	2.29E-4	8.68E-7	5.58E-6	2.33E-8	-1.92E-5	2.16E-4
NHWD	kg	1.74E-1	2.36E-2	1.39E-3	1.99E-1	2.10E-2	1.26E-1	8.41E-2	-7.58E-2	3.54E-1
RWD	kg	9.02E-5	2.45E-6	1.67E-6	9.43E-5	2.31E-6	1.29E-5	1.25E-7	-4.18E-5	6.78E-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



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