

Environmental Profile

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

Ecochain v3.5.80



Product: 3000326 - PVC U3 Pipe GN 400 SN8 L=5 SC/CH
Unit: 1 piece
Manufacturer: Wavin - NL - Hardenberg - Verified
Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

Multi-layer U3 PVC pipes from Wavin made with recycled PVC in the middle layer. The tubes contain at least 40% recycled material.

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

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Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	8.18	0.45	0.74	9.37	0.27	5.87	0.04	-2.07	13.48
ADPE	kg Sb-eq	2.39E-3	9.50E-5	1.35E-4	2.62E-3	5.74E-5	4.75E-4	5.94E-7	-2.77E-4	2.88E-3
ADPF	kg Sb-eq	8.17E-1	2.73E-2	3.61E-2	8.80E-1	1.62E-2	1.68E-1	8.42E-4	-2.66E-1	7.99E-1
GWP	kg CO2-eq	7.18E+1	3.72E+0	6.42E+0	8.20E+1	2.20E+0	5.64E+1	5.32E-1	-2.50E+1	1.16E+2
ODP	kg CFC-11-eq	3.34E-5	6.60E-7	6.03E-7	3.47E-5	4.08E-7	6.68E-6	2.02E-8	-7.45E-6	3.44E-5
POCP	kg ethene-eq	4.74E-2	2.24E-3	2.83E-3	5.25E-2	1.32E-3	1.33E-2	1.42E-4	-9.34E-3	5.79E-2
AP	kg SO2-eq	2.84E-1	1.64E-2	2.52E-2	3.26E-1	9.47E-3	9.63E-2	4.49E-4	-5.28E-2	3.79E-1
EP	kg PO4 3--eq	3.88E-2	3.21E-3	3.98E-3	4.60E-2	1.89E-3	1.47E-2	1.76E-4	-7.39E-3	5.53E-2
HTP	kg 1,4-DB-eq	2.72E+1	1.57E+0	2.42E+0	3.12E+1	9.41E-1	2.60E+1	4.61E-2	-4.92E+0	5.32E+1
FAETP	kg 1,4-DB-eq	3.85E+0	4.57E-2	9.86E-2	4.00E+0	2.76E-2	3.83E-1	1.41E-2	-1.00E-1	4.32E+0
MAETP	kg 1,4-DB-eq	2.17E+3	1.64E+2	4.03E+2	2.74E+3	9.85E+1	1.26E+3	1.71E+1	-2.94E+2	3.82E+3
TETP	kg 1,4-DB-eq	1.60E+0	5.53E-3	1.51E-1	1.76E+0	3.34E-3	9.24E-2	1.51E-4	-3.27E-2	1.82E+0
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.09E+1	3.75E+0	7.56E+0	7.22E+1	2.22E+0	7.24E+1	6.20E-1	-2.56E+1	1.22E+2
GWP-f	kg CO2 eq	7.33E+1	3.75E+0	5.92E+0	8.29E+1	2.22E+0	5.69E+1	6.20E-1	-2.55E+1	1.17E+2
GWP-b	kg CO2 eq	-1.28E+1	1.73E-3	1.28E+0	-1.15E+1	1.35E-3	1.55E+1	7.94E-4	-9.62E-2	3.89E+0
GWP-luluc	kg CO2 eq	4.34E-1	1.37E-3	3.61E-1	7.97E-1	7.85E-4	2.58E-2	1.66E-5	-1.10E-2	8.12E-1
ODP	kg CFC11 eq	3.32E-5	8.28E-7	7.15E-7	3.47E-5	5.11E-7	6.90E-6	2.52E-8	-7.54E-6	3.46E-5
AP	mol H+ eq	3.49E-1	2.17E-2	3.23E-2	4.03E-1	1.26E-2	1.21E-1	6.01E-4	-6.58E-2	4.71E-1
EP-fw	kg P eq	3.08E-3	3.78E-5	8.47E-5	3.20E-3	1.83E-5	8.57E-4	7.52E-7	-5.20E-4	3.56E-3
EP-m	kg N eq	7.00E-2	7.66E-3	9.52E-3	8.72E-2	4.52E-3	2.96E-2	3.73E-4	-1.35E-2	1.08E-1
EP-T	mol N eq	7.43E-1	8.45E-2	1.02E-1	9.30E-1	4.98E-2	3.27E-1	2.41E-3	-1.56E-1	1.15E+0
POCP	kg NMVOC eq	2.44E-1	2.41E-2	2.88E-2	2.97E-1	1.42E-2	9.81E-2	8.17E-4	-4.93E-2	3.61E-1
ADP-mm	kg Sb eq	2.39E-3	9.50E-5	1.35E-4	2.62E-3	5.74E-5	4.75E-4	5.94E-7	-2.77E-4	2.88E-3
ADP-f	MJ	1.72E+3	5.66E+1	6.85E+1	1.84E+3	3.41E+1	3.32E+2	1.82E+0	-5.31E+2	1.68E+3
WDP	m3 depriv.	1.01E+2	2.02E-1	4.63E+1	1.48E+2	1.05E-1	1.28E+1	9.90E-3	-1.93E+1	1.42E+2
PM	disease inc.	3.92E-6	3.37E-7	5.01E-7	4.76E-6	2.00E-7	1.52E-6	1.25E-8	-4.70E-7	6.02E-6
IR	kBq U-235 eq	3.63E+0	2.37E-1	1.24E-1	3.99E+0	1.49E-1	1.16E+0	8.36E-3	-6.85E-1	4.62E+0
ETP-fw	CTUe	1.23E+3	5.04E+1	1.14E+2	1.39E+3	2.77E+1	2.43E+3	2.68E+1	-2.65E+2	3.62E+3
HTP-c	CTUh	5.15E-8	1.64E-9	3.90E-9	5.70E-8	9.84E-10	3.66E-8	4.69E-11	-8.48E-9	8.62E-8
HTP-nc	CTUh	1.45E-6	5.52E-8	1.19E-7	1.62E-6	3.30E-8	8.67E-7	5.15E-9	-2.69E-7	2.26E-6
SQP	Pt	1.64E+3	4.91E+1	5.13E+0	1.69E+3	2.91E+1	2.09E+2	4.62E+0	-3.29E+2	1.61E+3

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.88E+2	7.08E-1	2.07E+2	4.95E+2	4.89E-1	2.36E+1	6.55E-2	-7.26E+1	4.47E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.88E+2	7.08E-1	2.07E+2	4.95E+2	4.89E-1	2.36E+1	6.55E-2	-7.26E+1	4.47E+2
PENRE	MJ	1.85E+3	6.00E+1	7.43E+1	1.98E+3	3.62E+1	3.54E+2	1.93E+0	-5.78E+2	1.79E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.85E+3	6.00E+1	7.43E+1	1.98E+3	3.62E+1	3.54E+2	1.93E+0	-5.78E+2	1.79E+3
PET	MJ	2.13E+3	6.08E+1	2.81E+2	2.47E+3	3.66E+1	3.77E+2	2.00E+0	-6.51E+2	2.24E+3
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	1.19E+0	6.89E-3	1.09E+0	2.29E+0	3.85E-3	3.51E-1	2.23E-3	-2.16E-1	2.43E+0
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.47E-3	1.43E-4	9.59E-5	1.71E-3	8.71E-5	5.36E-4	2.19E-6	-5.07E-4	1.83E-3
NHWD	kg	7.39E+0	3.59E+0	1.38E-1	1.11E+1	2.11E+0	1.25E+1	8.45E+0	-1.18E+0	3.30E+1
RWD	kg	3.37E-3	3.71E-4	1.72E-4	3.91E-3	2.32E-4	1.25E-3	1.19E-5	-6.39E-4	4.77E-3
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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