

Environmental Profile

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

Ecochain v3.5.80



Product: 3000304 - U3 Pipe BN KOMO 250 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	3.44	0.17	0.29	3.9	0.1	2.3	0.01	-0.96	5.36
ADPE	kg Sb-eq	9.97E-4	3.69E-5	5.32E-5	1.09E-3	2.24E-5	1.86E-4	2.33E-7	-1.47E-4	1.15E-3
ADPF	kg Sb-eq	3.45E-1	1.06E-2	1.43E-2	3.70E-1	6.31E-3	6.55E-2	3.30E-4	-1.22E-1	3.20E-1
GWP	kg CO2-eq	2.99E+1	1.45E+0	2.54E+0	3.38E+1	8.60E-1	2.21E+1	2.08E-1	-1.13E+1	4.58E+1
ODP	kg CFC-11-eq	1.44E-5	2.57E-7	2.38E-7	1.49E-5	1.59E-7	2.61E-6	7.92E-9	-3.82E-6	1.39E-5
POCP	kg ethene-eq	1.96E-2	8.72E-4	1.12E-3	2.16E-2	5.16E-4	5.16E-3	5.54E-5	-4.42E-3	2.29E-2
AP	kg SO2-eq	1.17E-1	6.36E-3	9.95E-3	1.33E-1	3.70E-3	3.75E-2	1.76E-4	-2.56E-2	1.49E-1
EP	kg PO4 3--eq	1.60E-2	1.25E-3	1.57E-3	1.88E-2	7.39E-4	5.70E-3	6.90E-5	-3.35E-3	2.20E-2
HTP	kg 1,4-DB-eq	1.14E+1	6.09E-1	9.57E-1	1.30E+1	3.68E-1	1.01E+1	1.80E-2	-2.42E+0	2.11E+1
FAETP	kg 1,4-DB-eq	2.26E+0	1.78E-2	3.90E-2	2.31E+0	1.08E-2	1.49E-1	5.51E-3	-5.02E-2	2.43E+0
MAETP	kg 1,4-DB-eq	8.70E+2	6.39E+1	1.59E+2	1.09E+3	3.85E+1	4.90E+2	6.69E+0	-1.49E+2	1.48E+3
TETP	kg 1,4-DB-eq	9.63E-1	2.15E-3	5.95E-2	1.02E+0	1.30E-3	3.61E-2	5.93E-5	-1.65E-2	1.05E+0
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.77E+1	1.46E+0	2.99E+0	3.21E+1	8.68E-1	2.63E+1	2.43E-1	-1.15E+1	4.80E+1
GWP-f	kg CO2 eq	3.04E+1	1.46E+0	2.34E+0	3.42E+1	8.67E-1	2.23E+1	2.43E-1	-1.15E+1	4.61E+1
GWP-b	kg CO2 eq	-2.97E+0	6.73E-4	5.06E-1	-2.47E+0	5.26E-4	3.99E+0	3.11E-4	-5.03E-2	1.47E+0
GWP-luluc	kg CO2 eq	2.58E-1	5.34E-4	1.43E-1	4.01E-1	3.07E-4	1.01E-2	6.51E-6	-5.18E-3	4.07E-1
ODP	kg CFC11 eq	1.43E-5	3.22E-7	2.83E-7	1.49E-5	2.00E-7	2.70E-6	9.84E-9	-3.84E-6	1.40E-5
AP	mol H+ eq	1.43E-1	8.46E-3	1.28E-2	1.64E-1	4.94E-3	4.71E-2	2.35E-4	-3.15E-2	1.85E-1
EP-fw	kg P eq	1.29E-3	1.47E-5	3.34E-5	1.33E-3	7.13E-6	3.35E-4	2.94E-7	-2.68E-4	1.41E-3
EP-m	kg N eq	2.87E-2	2.98E-3	3.76E-3	3.55E-2	1.77E-3	1.15E-2	1.46E-4	-6.14E-3	4.27E-2
EP-T	mol N eq	2.97E-1	3.29E-2	4.03E-2	3.70E-1	1.95E-2	1.27E-1	9.41E-4	-6.84E-2	4.49E-1
POCP	kg NMVOC eq	9.87E-2	9.38E-3	1.14E-2	1.19E-1	5.57E-3	3.81E-2	3.20E-4	-2.27E-2	1.41E-1
ADP-mm	kg Sb eq	9.97E-4	3.69E-5	5.32E-5	1.09E-3	2.24E-5	1.86E-4	2.33E-7	-1.47E-4	1.15E-3
ADP-f	MJ	7.28E+2	2.20E+1	2.71E+1	7.77E+2	1.33E+1	1.30E+2	7.12E-1	-2.47E+2	6.74E+2
WDP	m3 depriv.	4.36E+1	7.87E-2	1.83E+1	6.20E+1	4.08E-2	5.00E+0	3.87E-3	-1.02E+1	5.69E+1
PM	disease inc.	1.46E-6	1.31E-7	1.98E-7	1.79E-6	7.82E-8	5.93E-7	4.88E-9	-2.10E-7	2.26E-6
IR	kBq U-235 eq	1.52E+0	9.21E-2	4.89E-2	1.66E+0	5.82E-2	4.52E-1	3.27E-3	-3.50E-1	1.83E+0
ETP-fw	CTUe	5.10E+2	1.96E+1	4.51E+1	5.75E+2	1.08E+1	9.53E+2	1.05E+1	-1.20E+2	1.43E+3
HTP-c	CTUh	2.09E-8	6.36E-10	1.54E-9	2.30E-8	3.84E-10	1.42E-8	1.84E-11	-4.13E-9	3.35E-8
HTP-nc	CTUh	6.07E-7	2.15E-8	4.71E-8	6.75E-7	1.29E-8	3.39E-7	2.02E-9	-1.35E-7	8.94E-7
SQP	Pt	4.52E+2	1.91E+1	2.02E+0	4.73E+2	1.14E+1	8.15E+1	1.81E+0	-9.03E+1	4.78E+2

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.64E+1	2.75E-1	8.16E+1	1.68E+2	1.91E-1	9.23E+0	2.57E-2	-2.17E+1	1.56E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.64E+1	2.75E-1	8.16E+1	1.68E+2	1.91E-1	9.23E+0	2.57E-2	-2.17E+1	1.56E+2
PENRE	MJ	7.81E+2	2.33E+1	2.93E+1	8.34E+2	1.41E+1	1.38E+2	7.56E-1	-2.68E+2	7.18E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	7.81E+2	2.33E+1	2.93E+1	8.34E+2	1.41E+1	1.38E+2	7.56E-1	-2.68E+2	7.18E+2
PET	MJ	8.67E+2	2.36E+1	1.11E+2	1.00E+3	1.43E+1	1.47E+2	7.82E-1	-2.90E+2	8.74E+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	5.09E-1	2.68E-3	4.31E-1	9.43E-1	1.51E-3	1.37E-1	8.73E-4	-1.12E-1	9.71E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.03E-4	5.57E-5	3.79E-5	6.97E-4	3.40E-5	2.09E-4	8.57E-7	-2.28E-4	7.12E-4
NHWD	kg	2.98E+0	1.40E+0	5.47E-2	4.43E+0	8.25E-1	4.85E+0	3.30E+0	-5.82E-1	1.28E+1
RWD	kg	1.40E-3	1.44E-4	6.81E-5	1.62E-3	9.05E-5	4.87E-4	4.66E-6	-3.21E-4	1.88E-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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