

Environmental Profile

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

Ecochain v3.5.80



Product: 3000302 - U3 Pipe BN KOMO 200 SN8 L=5 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	2.21	0.12	0.19	2.52	0.07	1.52	0.01	-0.63	3.48
ADPE	kg Sb-eq	5.48E-4	2.47E-5	3.52E-5	6.08E-4	1.49E-5	1.24E-4	1.54E-7	-9.42E-5	6.53E-4
ADPF	kg Sb-eq	2.27E-1	7.10E-3	9.44E-3	2.44E-1	4.20E-3	4.37E-2	2.19E-4	-8.08E-2	2.11E-1
GWP	kg CO2-eq	1.96E+1	9.65E-1	1.68E+0	2.23E+1	5.73E-1	1.45E+1	1.38E-1	-7.41E+0	3.00E+1
ODP	kg CFC-11-eq	9.63E-6	1.71E-7	1.58E-7	9.96E-6	1.06E-7	1.75E-6	5.26E-9	-2.54E-6	9.27E-6
POCP	kg ethene-eq	1.27E-2	5.82E-4	7.39E-4	1.40E-2	3.44E-4	3.45E-3	3.67E-5	-2.94E-3	1.49E-2
AP	kg SO2-eq	7.63E-2	4.24E-3	6.59E-3	8.72E-2	2.46E-3	2.51E-2	1.16E-4	-1.71E-2	9.77E-2
EP	kg PO4 3--eq	1.01E-2	8.34E-4	1.04E-3	1.20E-2	4.92E-4	3.80E-3	4.54E-5	-2.24E-3	1.41E-2
HTP	kg 1,4-DB-eq	7.43E+0	4.06E-1	6.34E-1	8.47E+0	2.45E-1	6.77E+0	1.20E-2	-1.61E+0	1.39E+1
FAETP	kg 1,4-DB-eq	8.37E-1	1.19E-2	2.58E-2	8.75E-1	7.17E-3	9.96E-2	3.66E-3	-3.35E-2	9.52E-1
MAETP	kg 1,4-DB-eq	5.71E+2	4.27E+1	1.05E+2	7.19E+2	2.56E+1	3.27E+2	4.44E+0	-9.91E+1	9.77E+2
TETP	kg 1,4-DB-eq	3.46E-1	1.44E-3	3.94E-2	3.87E-1	8.68E-4	2.41E-2	3.94E-5	-1.10E-2	4.01E-1
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.82E+1	9.74E-1	1.98E+0	2.11E+1	5.78E-1	1.72E+1	1.61E-1	-7.59E+0	3.15E+1
GWP-f	kg CO2 eq	2.00E+1	9.73E-1	1.55E+0	2.26E+1	5.77E-1	1.46E+1	1.61E-1	-7.55E+0	3.03E+1
GWP-b	kg CO2 eq	-1.94E+0	4.49E-4	3.35E-1	-1.61E+0	3.51E-4	2.62E+0	2.06E-4	-3.38E-2	9.85E-1
GWP-luluc	kg CO2 eq	9.34E-2	3.57E-4	9.44E-2	1.88E-1	2.04E-4	6.75E-3	4.31E-6	-3.47E-3	1.92E-1
ODP	kg CFC11 eq	9.52E-6	2.15E-7	1.87E-7	9.92E-6	1.33E-7	1.80E-6	6.53E-9	-2.55E-6	9.31E-6
AP	mol H+ eq	9.33E-2	5.64E-3	8.45E-3	1.07E-1	3.29E-3	3.14E-2	1.56E-4	-2.10E-2	1.21E-1
EP-fw	kg P eq	8.47E-4	9.82E-6	2.21E-5	8.79E-4	4.75E-6	2.24E-4	1.95E-7	-1.79E-4	9.29E-4
EP-m	kg N eq	1.83E-2	1.99E-3	2.49E-3	2.27E-2	1.18E-3	7.67E-3	9.61E-5	-4.08E-3	2.76E-2
EP-T	mol N eq	1.94E-1	2.19E-2	2.67E-2	2.42E-1	1.30E-2	8.46E-2	6.25E-4	-4.56E-2	2.95E-1
POCP	kg NMVOC eq	6.45E-2	6.26E-3	7.54E-3	7.83E-2	3.71E-3	2.54E-2	2.12E-4	-1.51E-2	9.26E-2
ADP-mm	kg Sb eq	5.48E-4	2.47E-5	3.52E-5	6.08E-4	1.49E-5	1.24E-4	1.54E-7	-9.42E-5	6.53E-4
ADP-f	MJ	4.80E+2	1.47E+1	1.79E+1	5.12E+2	8.86E+0	8.66E+1	4.73E-1	-1.63E+2	4.45E+2
WDP	m3 depriv.	2.90E+1	5.25E-2	1.21E+1	4.12E+1	2.72E-2	3.34E+0	2.52E-3	-6.79E+0	3.77E+1
PM	disease inc.	9.51E-7	8.74E-8	1.31E-7	1.17E-6	5.21E-8	3.96E-7	3.24E-9	-1.40E-7	1.48E-6
IR	kBq U-235 eq	9.95E-1	6.15E-2	3.24E-2	1.09E+0	3.87E-2	3.02E-1	2.17E-3	-2.33E-1	1.20E+0
ETP-fw	CTUe	3.29E+2	1.31E+1	2.99E+1	3.72E+2	7.20E+0	6.37E+2	7.01E+0	-8.02E+1	9.43E+2
HTP-c	CTUh	1.37E-8	4.25E-10	1.02E-9	1.51E-8	2.56E-10	9.42E-9	1.21E-11	-2.76E-9	2.21E-8
HTP-nc	CTUh	3.99E-7	1.43E-8	3.12E-8	4.45E-7	8.58E-9	2.26E-7	1.35E-9	-9.01E-8	5.91E-7
SQP	Pt	3.03E+2	1.27E+1	1.34E+0	3.17E+2	7.58E+0	5.44E+1	1.20E+0	-6.19E+1	3.18E+2

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.76E+1	1.84E-1	5.41E+1	1.12E+2	1.27E-1	6.17E+0	1.70E-2	-1.48E+1	1.03E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.76E+1	1.84E-1	5.41E+1	1.12E+2	1.27E-1	6.17E+0	1.70E-2	-1.48E+1	1.03E+2
PENRE	MJ	5.15E+2	1.56E+1	1.94E+1	5.50E+2	9.41E+0	9.22E+1	5.02E-1	-1.77E+2	4.75E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.15E+2	1.56E+1	1.94E+1	5.50E+2	9.41E+0	9.22E+1	5.02E-1	-1.77E+2	4.75E+2
PET	MJ	5.72E+2	1.58E+1	7.35E+1	6.62E+2	9.53E+0	9.83E+1	5.19E-1	-1.92E+2	5.78E+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	3.30E-1	1.79E-3	2.85E-1	6.18E-1	1.00E-3	9.14E-2	5.80E-4	-7.45E-2	6.36E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.99E-4	3.72E-5	2.51E-5	4.61E-4	2.27E-5	1.39E-4	5.68E-7	-1.50E-4	4.73E-4
NHWD	kg	1.95E+0	9.31E-1	3.62E-2	2.92E+0	5.49E-1	3.23E+0	2.19E+0	-3.89E-1	8.51E+0
RWD	kg	9.06E-4	9.64E-5	4.51E-5	1.05E-3	6.03E-5	3.25E-4	3.09E-6	-2.13E-4	1.22E-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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