

Environmental Profile

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

Ecochain v3.5.80



Product: 3000464 - U3 Pipe BN KOMO 110 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	0.58	0.03	0.05	0.67	0.02	0.4	0	-0.17	0.93
ADPE	kg Sb-eq	1.45E-4	6.53E-6	9.37E-6	1.60E-4	3.97E-6	3.29E-5	4.10E-8	-2.45E-5	1.73E-4
ADPF	kg Sb-eq	5.99E-2	1.88E-3	2.51E-3	6.43E-2	1.12E-3	1.16E-2	5.81E-5	-2.12E-2	5.58E-2
GWP	kg CO2-eq	5.17E+0	2.56E-1	4.46E-1	5.87E+0	1.52E-1	3.85E+0	3.66E-2	-1.95E+0	7.96E+0
ODP	kg CFC-11-eq	2.54E-6	4.54E-8	4.19E-8	2.62E-6	2.82E-8	4.64E-7	1.40E-9	-6.64E-7	2.45E-6
POCP	kg ethene-eq	3.34E-3	1.54E-4	1.97E-4	3.69E-3	9.13E-5	9.14E-4	9.76E-6	-7.64E-4	3.94E-3
AP	kg SO2-eq	2.01E-2	1.12E-3	1.75E-3	2.30E-2	6.55E-4	6.65E-3	3.09E-5	-4.43E-3	2.59E-2
EP	kg PO4 3--eq	2.68E-3	2.21E-4	2.77E-4	3.18E-3	1.31E-4	1.01E-3	1.21E-5	-5.75E-4	3.75E-3
HTP	kg 1,4-DB-eq	1.96E+0	1.08E-1	1.69E-1	2.23E+0	6.51E-2	1.80E+0	3.18E-3	-4.18E-1	3.68E+0
FAETP	kg 1,4-DB-eq	2.57E-1	3.14E-3	6.86E-3	2.67E-1	1.91E-3	2.65E-2	9.72E-4	-8.69E-3	2.88E-1
MAETP	kg 1,4-DB-eq	1.51E+2	1.13E+1	2.80E+1	1.90E+2	6.81E+0	8.69E+1	1.18E+0	-2.58E+1	2.59E+2
TETP	kg 1,4-DB-eq	1.08E-1	3.80E-4	1.05E-2	1.18E-1	2.31E-4	6.40E-3	1.05E-5	-2.86E-3	1.22E-1
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.90E+0	2.58E-1	5.26E-1	5.68E+0	1.54E-1	4.47E+0	4.27E-2	-1.99E+0	8.35E+0
GWP-f	kg CO2 eq	5.28E+0	2.58E-1	4.12E-1	5.95E+0	1.53E-1	3.88E+0	4.27E-2	-1.99E+0	8.03E+0
GWP-b	kg CO2 eq	-4.06E-1	1.19E-4	8.90E-2	-3.17E-1	9.31E-5	5.88E-1	5.48E-5	-8.82E-3	2.63E-1
GWP-luluc	kg CO2 eq	2.89E-2	9.45E-5	2.51E-2	5.41E-2	5.43E-5	1.79E-3	1.15E-6	-8.90E-4	5.51E-2
ODP	kg CFC11 eq	2.51E-6	5.69E-8	4.97E-8	2.62E-6	3.53E-8	4.79E-7	1.74E-9	-6.67E-7	2.46E-6
AP	mol H+ eq	2.45E-2	1.50E-3	2.25E-3	2.83E-2	8.74E-4	8.34E-3	4.14E-5	-5.43E-3	3.21E-2
EP-fw	kg P eq	2.23E-4	2.60E-6	5.89E-6	2.31E-4	1.26E-6	5.95E-5	5.18E-8	-4.64E-5	2.46E-4
EP-m	kg N eq	4.83E-3	5.27E-4	6.62E-4	6.02E-3	3.13E-4	2.03E-3	2.55E-5	-1.06E-3	7.34E-3
EP-T	mol N eq	5.09E-2	5.81E-3	7.10E-3	6.38E-2	3.44E-3	2.24E-2	1.66E-4	-1.17E-2	7.81E-2
POCP	kg NMVOC eq	1.69E-2	1.66E-3	2.00E-3	2.06E-2	9.85E-4	6.73E-3	5.64E-5	-3.90E-3	2.45E-2
ADP-mm	kg Sb eq	1.45E-4	6.53E-6	9.37E-6	1.60E-4	3.97E-6	3.29E-5	4.10E-8	-2.45E-5	1.73E-4
ADP-f	MJ	1.26E+2	3.89E+0	4.77E+0	1.35E+2	2.35E+0	2.30E+1	1.26E-1	-4.28E+1	1.18E+2
WDP	m3 depriv.	7.64E+0	1.39E-2	3.22E+0	1.09E+1	7.23E-3	8.87E-1	6.71E-4	-1.77E+0	1.00E+1
PM	disease inc.	2.47E-7	2.32E-8	3.49E-8	3.05E-7	1.38E-8	1.05E-7	8.60E-10	-3.58E-8	3.89E-7
IR	kBq U-235 eq	2.61E-1	1.63E-2	8.60E-3	2.86E-1	1.03E-2	8.02E-2	5.77E-4	-6.07E-2	3.17E-1
ETP-fw	CTUe	8.67E+1	3.47E+0	7.95E+0	9.81E+1	1.91E+0	1.69E+2	1.86E+0	-2.05E+1	2.51E+2
HTP-c	CTUh	3.58E-9	1.12E-10	2.71E-10	3.96E-9	6.80E-11	2.50E-9	3.23E-12	-7.14E-10	5.82E-9
HTP-nc	CTUh	1.05E-7	3.79E-9	8.30E-9	1.17E-7	2.28E-9	6.01E-8	3.58E-10	-2.33E-8	1.57E-7
SQP	Pt	7.00E+1	3.37E+0	3.57E-1	7.38E+1	2.01E+0	1.45E+1	3.19E-1	-1.41E+1	7.64E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.37E+1	4.87E-2	1.44E+1	2.82E+1	3.38E-2	1.64E+0	4.53E-3	-3.46E+0	2.64E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.37E+1	4.87E-2	1.44E+1	2.82E+1	3.38E-2	1.64E+0	4.53E-3	-3.46E+0	2.64E+1
PENRE	MJ	1.36E+2	4.13E+0	5.17E+0	1.45E+2	2.50E+0	2.45E+1	1.33E-1	-4.65E+1	1.25E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.36E+2	4.13E+0	5.17E+0	1.45E+2	2.50E+0	2.45E+1	1.33E-1	-4.65E+1	1.25E+2
PET	MJ	1.49E+2	4.18E+0	1.95E+1	1.73E+2	2.53E+0	2.61E+1	1.38E-1	-5.00E+1	1.52E+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	8.72E-2	4.74E-4	7.59E-2	1.64E-1	2.66E-4	2.43E-2	1.54E-4	-1.94E-2	1.69E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.05E-4	9.85E-6	6.67E-6	1.21E-4	6.02E-6	3.70E-5	1.51E-7	-3.94E-5	1.25E-4
NHWD	kg	5.12E-1	2.47E-1	9.63E-3	7.68E-1	1.46E-1	8.57E-1	5.83E-1	-1.01E-1	2.25E+0
RWD	kg	2.38E-4	2.55E-5	1.20E-5	2.75E-4	1.60E-5	8.63E-5	8.22E-7	-5.54E-5	3.23E-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



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