

Environmental Profile

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

Ecochain v3.5.80



Product: 3000444 - U3 Pipe GY KOMO 200 SN4 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	1.77	0.09	0.15	2.02	0.06	1.21	0.01	-0.5	2.79
ADPE	kg Sb-eq	4.38E-4	1.98E-5	2.82E-5	4.86E-4	1.19E-5	9.91E-5	1.23E-7	-7.38E-5	5.24E-4
ADPF	kg Sb-eq	1.81E-1	5.69E-3	7.55E-3	1.94E-1	3.36E-3	3.50E-2	1.75E-4	-6.38E-2	1.69E-1
GWP	kg CO2-eq	1.57E+1	7.74E-1	1.34E+0	1.78E+1	4.58E-1	1.16E+1	1.10E-1	-5.87E+0	2.41E+1
ODP	kg CFC-11-eq	7.64E-6	1.37E-7	1.26E-7	7.90E-6	8.49E-8	1.40E-6	4.20E-9	-1.99E-6	7.40E-6
POCP	kg ethene-eq	1.02E-2	4.67E-4	5.92E-4	1.12E-2	2.75E-4	2.76E-3	2.94E-5	-2.33E-3	1.20E-2
AP	kg SO2-eq	6.12E-2	3.40E-3	5.27E-3	6.99E-2	1.97E-3	2.01E-2	9.31E-5	-1.35E-2	7.84E-2
EP	kg PO4 3--eq	8.17E-3	6.69E-4	8.32E-4	9.67E-3	3.93E-4	3.04E-3	3.63E-5	-1.80E-3	1.13E-2
HTP	kg 1,4-DB-eq	5.94E+0	3.26E-1	5.07E-1	6.77E+0	1.96E-1	5.41E+0	9.58E-3	-1.28E+0	1.11E+1
FAETP	kg 1,4-DB-eq	6.70E-1	9.51E-3	2.06E-2	7.00E-1	5.74E-3	7.97E-2	2.92E-3	-2.65E-2	7.62E-1
MAETP	kg 1,4-DB-eq	4.58E+2	3.42E+1	8.42E+1	5.77E+2	2.05E+1	2.62E+2	3.55E+0	-7.81E+1	7.84E+2
TETP	kg 1,4-DB-eq	2.77E-1	1.15E-3	3.15E-2	3.10E-1	6.94E-4	1.93E-2	3.15E-5	-8.71E-3	3.21E-1
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.40E+1	7.81E-1	1.58E+0	1.64E+1	4.62E-1	1.43E+1	1.28E-1	-6.01E+0	2.53E+1
GWP-f	kg CO2 eq	1.60E+1	7.81E-1	1.24E+0	1.80E+1	4.61E-1	1.17E+1	1.28E-1	-5.98E+0	2.43E+1
GWP-b	kg CO2 eq	-2.06E+0	3.60E-4	2.68E-1	-1.79E+0	2.80E-4	2.60E+0	1.65E-4	-2.65E-2	7.89E-1
GWP-luluc	kg CO2 eq	7.50E-2	2.86E-4	7.55E-2	1.51E-1	1.63E-4	5.40E-3	3.44E-6	-2.79E-3	1.54E-1
ODP	kg CFC11 eq	7.56E-6	1.72E-7	1.50E-7	7.88E-6	1.06E-7	1.44E-6	5.22E-9	-2.00E-6	7.43E-6
AP	mol H+ eq	7.48E-2	4.53E-3	6.76E-3	8.61E-2	2.63E-3	2.52E-2	1.25E-4	-1.67E-2	9.73E-2
EP-fw	kg P eq	6.77E-4	7.87E-6	1.77E-5	7.02E-4	3.80E-6	1.79E-4	1.56E-7	-1.41E-4	7.45E-4
EP-m	kg N eq	1.47E-2	1.60E-3	1.99E-3	1.83E-2	9.40E-4	6.15E-3	7.68E-5	-3.28E-3	2.22E-2
EP-T	mol N eq	1.56E-1	1.76E-2	2.14E-2	1.95E-1	1.04E-2	6.78E-2	4.99E-4	-3.70E-2	2.37E-1
POCP	kg NMVOC eq	5.19E-2	5.02E-3	6.03E-3	6.30E-2	2.96E-3	2.04E-2	1.70E-4	-1.20E-2	7.44E-2
ADP-mm	kg Sb eq	4.38E-4	1.98E-5	2.82E-5	4.86E-4	1.19E-5	9.91E-5	1.23E-7	-7.38E-5	5.24E-4
ADP-f	MJ	3.82E+2	1.18E+1	1.43E+1	4.08E+2	7.08E+0	6.93E+1	3.78E-1	-1.29E+2	3.56E+2
WDP	m3 depriv.	2.30E+1	4.21E-2	9.70E+0	3.28E+1	2.17E-2	2.67E+0	2.02E-3	-5.32E+0	3.02E+1
PM	disease inc.	7.85E-7	7.01E-8	1.05E-7	9.60E-7	4.17E-8	3.17E-7	2.59E-9	-1.14E-7	1.21E-6
IR	kBq U-235 eq	7.96E-1	4.93E-2	2.59E-2	8.71E-1	3.10E-2	2.41E-1	1.74E-3	-1.83E-1	9.62E-1
ETP-fw	CTUe	2.64E+2	1.05E+1	2.39E+1	2.99E+2	5.75E+0	5.09E+2	5.60E+0	-6.51E+1	7.54E+2
HTP-c	CTUh	1.11E-8	3.40E-10	8.16E-10	1.22E-8	2.05E-10	7.57E-9	9.71E-12	-2.19E-9	1.78E-8
HTP-nc	CTUh	3.19E-7	1.15E-8	2.50E-8	3.56E-7	6.86E-9	1.81E-7	1.08E-9	-7.14E-8	4.73E-7
SQP	Pt	2.88E+2	1.02E+1	1.07E+0	2.99E+2	6.06E+0	4.35E+1	9.59E-1	-5.91E+1	2.90E+2

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.28E+1	1.47E-1	4.33E+1	9.62E+1	1.02E-1	4.93E+0	1.36E-2	-1.37E+1	8.75E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.28E+1	1.47E-1	4.33E+1	9.62E+1	1.02E-1	4.93E+0	1.36E-2	-1.37E+1	8.75E+1
PENRE	MJ	4.10E+2	1.25E+1	1.55E+1	4.38E+2	7.52E+0	7.37E+1	4.01E-1	-1.40E+2	3.80E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.10E+2	1.25E+1	1.55E+1	4.38E+2	7.52E+0	7.37E+1	4.01E-1	-1.40E+2	3.80E+2
PET	MJ	4.63E+2	1.26E+1	5.88E+1	5.34E+2	7.62E+0	7.87E+1	4.15E-1	-1.54E+2	4.67E+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	2.64E-1	1.43E-3	2.28E-1	4.93E-1	8.02E-4	7.31E-2	4.64E-4	-5.84E-2	5.09E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.20E-4	2.98E-5	2.01E-5	3.70E-4	1.81E-5	1.12E-4	4.54E-7	-1.19E-4	3.81E-4
NHWD	kg	1.58E+0	7.47E-1	2.90E-2	2.35E+0	4.39E-1	2.59E+0	1.75E+0	-3.09E-1	6.83E+0
RWD	kg	7.26E-4	7.73E-5	3.61E-5	8.39E-4	4.82E-5	2.60E-4	2.47E-6	-1.68E-4	9.82E-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