

Environmental Profile

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

Ecochain v3.5.80



Product: 3000418 - U3 Pipe GY KOMO 90x3 L=4
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	0.39	0.02	0.03	0.45	0.01	0.27	0	-0.11	0.62
ADPE	kg Sb-eq	9.76E-5	4.40E-6	6.28E-6	1.08E-4	2.66E-6	2.21E-5	2.74E-8	-1.64E-5	1.17E-4
ADPF	kg Sb-eq	4.03E-2	1.27E-3	1.68E-3	4.32E-2	7.48E-4	7.78E-3	3.89E-5	-1.42E-2	3.76E-2
GWP	kg CO2-eq	3.49E+0	1.72E-1	2.99E-1	3.96E+0	1.02E-1	2.58E+0	2.45E-2	-1.31E+0	5.36E+0
ODP	kg CFC-11-eq	1.70E-6	3.06E-8	2.81E-8	1.76E-6	1.89E-8	3.11E-7	9.36E-10	-4.45E-7	1.65E-6
POCP	kg ethene-eq	2.26E-3	1.04E-4	1.32E-4	2.50E-3	6.11E-5	6.15E-4	6.53E-6	-5.19E-4	2.66E-3
AP	kg SO2-eq	1.36E-2	7.57E-4	1.17E-3	1.55E-2	4.39E-4	4.46E-3	2.07E-5	-3.02E-3	1.74E-2
EP	kg PO4 3--eq	1.82E-3	1.49E-4	1.85E-4	2.15E-3	8.76E-5	6.77E-4	8.07E-6	-4.01E-4	2.52E-3
HTP	kg 1,4-DB-eq	1.32E+0	7.25E-2	1.13E-1	1.51E+0	4.36E-2	1.21E+0	2.13E-3	-2.84E-1	2.47E+0
FAETP	kg 1,4-DB-eq	1.49E-1	2.12E-3	4.60E-3	1.56E-1	1.28E-3	1.77E-2	6.51E-4	-5.90E-3	1.70E-1
MAETP	kg 1,4-DB-eq	1.02E+2	7.62E+0	1.88E+1	1.28E+2	4.56E+0	5.83E+1	7.90E-1	-1.74E+1	1.75E+2
TETP	kg 1,4-DB-eq	6.16E-2	2.56E-4	7.01E-3	6.89E-2	1.54E-4	4.29E-3	7.00E-6	-1.94E-3	7.14E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.13E+0	1.74E-1	3.52E-1	3.65E+0	1.03E-1	3.17E+0	2.86E-2	-1.34E+0	5.62E+0
GWP-f	kg CO2 eq	3.56E+0	1.74E-1	2.76E-1	4.01E+0	1.03E-1	2.60E+0	2.86E-2	-1.33E+0	5.41E+0
GWP-b	kg CO2 eq	-4.49E-1	8.02E-5	5.97E-2	-3.89E-1	6.24E-5	5.71E-1	3.67E-5	-5.90E-3	1.76E-1
GWP-luluc	kg CO2 eq	1.67E-2	6.37E-5	1.68E-2	3.36E-2	3.64E-5	1.20E-3	7.67E-7	-6.21E-4	3.42E-2
ODP	kg CFC11 eq	1.68E-6	3.83E-8	3.33E-8	1.76E-6	2.37E-8	3.21E-7	1.16E-9	-4.47E-7	1.65E-6
AP	mol H+ eq	1.66E-2	1.01E-3	1.51E-3	1.92E-2	5.85E-4	5.60E-3	2.78E-5	-3.72E-3	2.17E-2
EP-fw	kg P eq	1.51E-4	1.75E-6	3.95E-6	1.56E-4	8.45E-7	3.99E-5	3.47E-8	-3.13E-5	1.66E-4
EP-m	kg N eq	3.27E-3	3.55E-4	4.43E-4	4.07E-3	2.09E-4	1.37E-3	1.71E-5	-7.30E-4	4.93E-3
EP-T	mol N eq	3.48E-2	3.91E-3	4.76E-3	4.35E-2	2.31E-3	1.51E-2	1.11E-4	-8.22E-3	5.27E-2
POCP	kg NMVOC eq	1.15E-2	1.12E-3	1.34E-3	1.40E-2	6.60E-4	4.53E-3	3.78E-5	-2.68E-3	1.66E-2
ADP-mm	kg Sb eq	9.76E-5	4.40E-6	6.28E-6	1.08E-4	2.66E-6	2.21E-5	2.74E-8	-1.64E-5	1.17E-4
ADP-f	MJ	8.50E+1	2.62E+0	3.19E+0	9.09E+1	1.58E+0	1.54E+1	8.42E-2	-2.87E+1	7.93E+1
WDP	m3 depriv.	5.13E+0	9.37E-3	2.16E+0	7.30E+0	4.84E-3	5.94E-1	4.49E-4	-1.18E+0	6.71E+0
PM	disease inc.	1.74E-7	1.56E-8	2.34E-8	2.13E-7	9.27E-9	7.06E-8	5.76E-10	-2.54E-8	2.68E-7
IR	kBq U-235 eq	1.77E-1	1.10E-2	5.77E-3	1.94E-1	6.89E-3	5.38E-2	3.86E-4	-4.08E-2	2.14E-1
ETP-fw	CTUe	5.88E+1	2.34E+0	5.33E+0	6.65E+1	1.28E+0	1.13E+2	1.25E+0	-1.45E+1	1.68E+2
HTP-c	CTUh	2.46E-9	7.58E-11	1.82E-10	2.72E-9	4.56E-11	1.68E-9	2.16E-12	-4.88E-10	3.96E-9
HTP-nc	CTUh	7.11E-8	2.56E-9	5.56E-9	7.92E-8	1.53E-9	4.03E-8	2.40E-10	-1.59E-8	1.05E-7
SQP	Pt	6.32E+1	2.27E+0	2.39E-1	6.57E+1	1.35E+0	9.69E+0	2.13E-1	-1.30E+1	6.40E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.16E+1	3.28E-2	9.63E+0	2.13E+1	2.26E-2	1.10E+0	3.03E-3	-3.03E+0	1.94E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.16E+1	3.28E-2	9.63E+0	2.13E+1	2.26E-2	1.10E+0	3.03E-3	-3.03E+0	1.94E+1
PENRE	MJ	9.12E+1	2.78E+0	3.46E+0	9.75E+1	1.67E+0	1.64E+1	8.93E-2	-3.11E+1	8.45E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.12E+1	2.78E+0	3.46E+0	9.75E+1	1.67E+0	1.64E+1	8.93E-2	-3.11E+1	8.45E+1
PET	MJ	1.03E+2	2.81E+0	1.31E+1	1.19E+2	1.70E+0	1.75E+1	9.23E-2	-3.42E+1	1.04E+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	5.86E-2	3.19E-4	5.09E-2	1.10E-1	1.78E-4	1.63E-2	1.03E-4	-1.30E-2	1.13E-1
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.13E-5	6.64E-6	4.47E-6	8.24E-5	4.03E-6	2.48E-5	1.01E-7	-2.65E-5	8.48E-5
NHWD	kg	3.51E-1	1.66E-1	6.45E-3	5.24E-1	9.77E-2	5.77E-1	3.91E-1	-6.88E-2	1.52E+0
RWD	kg	1.61E-4	1.72E-5	8.03E-6	1.87E-4	1.07E-5	5.79E-5	5.51E-7	-3.73E-5	2.19E-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