

Environmental Profile

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

Ecochain v3.5.80



Product: 3000390 - U3 Pipe GY 32x3 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	0.14	0.01	0.01	0.16	0	0.09	0	-0.05	0.2
ADPE	kg Sb-eq	3.49E-5	1.39E-6	1.99E-6	3.83E-5	8.40E-7	6.96E-6	8.73E-9	-7.98E-6	3.81E-5
ADPF	kg Sb-eq	1.46E-2	3.99E-4	5.32E-4	1.55E-2	2.37E-4	2.46E-3	1.23E-5	-5.85E-3	1.23E-2
GWP	kg CO2-eq	1.24E+0	5.42E-2	9.46E-2	1.39E+0	3.22E-2	8.17E-1	7.81E-3	-5.22E-1	1.73E+0
ODP	kg CFC-11-eq	6.31E-7	9.62E-9	8.89E-9	6.50E-7	5.97E-9	9.81E-8	2.96E-10	-2.08E-7	5.46E-7
POCP	kg ethene-eq	7.98E-4	3.27E-5	4.17E-5	8.72E-4	1.93E-5	1.93E-4	2.08E-6	-2.25E-4	8.62E-4
AP	kg SO2-eq	4.81E-3	2.38E-4	3.71E-4	5.42E-3	1.39E-4	1.41E-3	6.57E-6	-1.35E-3	5.62E-3
EP	kg PO4 3--eq	6.53E-4	4.68E-5	5.86E-5	7.58E-4	2.77E-5	2.13E-4	2.55E-6	-1.69E-4	8.32E-4
HTP	kg 1,4-DB-eq	4.80E-1	2.28E-2	3.57E-2	5.38E-1	1.38E-2	3.80E-1	6.76E-4	-1.29E-1	8.04E-1
FAETP	kg 1,4-DB-eq	1.01E-1	6.67E-4	1.45E-3	1.03E-1	4.04E-4	5.61E-3	2.07E-4	-2.73E-3	1.06E-1
MAETP	kg 1,4-DB-eq	3.47E+1	2.40E+0	5.93E+0	4.31E+1	1.44E+0	1.84E+1	2.51E-1	-8.10E+0	5.51E+1
TETP	kg 1,4-DB-eq	4.32E-2	8.07E-5	2.22E-3	4.55E-2	4.88E-5	1.36E-3	2.22E-6	-9.04E-4	4.60E-2
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.19E+0	5.47E-2	1.11E-1	1.36E+0	3.25E-2	9.40E-1	9.10E-3	-5.35E-1	1.81E+0
GWP-f	kg CO2 eq	1.26E+0	5.47E-2	8.73E-2	1.41E+0	3.25E-2	8.23E-1	9.10E-3	-5.32E-1	1.74E+0
GWP-b	kg CO2 eq	-8.11E-2	2.52E-5	1.89E-2	-6.22E-2	1.97E-5	1.17E-1	1.16E-5	-2.81E-3	5.16E-2
GWP-luluc	kg CO2 eq	1.16E-2	2.00E-5	5.32E-3	1.69E-2	1.15E-5	3.79E-4	2.45E-7	-2.74E-4	1.70E-2
ODP	kg CFC11 eq	6.24E-7	1.21E-8	1.05E-8	6.47E-7	7.48E-9	1.01E-7	3.68E-10	-2.08E-7	5.48E-7
AP	mol H+ eq	5.87E-3	3.17E-4	4.76E-4	6.67E-3	1.85E-4	1.76E-3	8.81E-6	-1.64E-3	6.98E-3
EP-fw	kg P eq	5.42E-5	5.52E-7	1.25E-6	5.60E-5	2.67E-7	1.26E-5	1.11E-8	-1.48E-5	5.40E-5
EP-m	kg N eq	1.16E-3	1.12E-4	1.40E-4	1.41E-3	6.62E-5	4.30E-4	5.40E-6	-3.05E-4	1.61E-3
EP-T	mol N eq	1.19E-2	1.23E-3	1.50E-3	1.46E-2	7.29E-4	4.74E-3	3.52E-5	-3.33E-3	1.68E-2
POCP	kg NMVOC eq	3.97E-3	3.52E-4	4.25E-4	4.75E-3	2.09E-4	1.42E-3	1.20E-5	-1.13E-3	5.26E-3
ADP-mm	kg Sb eq	3.49E-5	1.39E-6	1.99E-6	3.83E-5	8.40E-7	6.96E-6	8.73E-9	-7.98E-6	3.81E-5
ADP-f	MJ	3.08E+1	8.25E-1	1.01E+0	3.26E+1	4.99E-1	4.87E+0	2.67E-2	-1.20E+1	2.60E+1
WDP	m3 depriv.	1.90E+0	2.95E-3	6.83E-1	2.59E+0	1.53E-3	1.88E-1	1.50E-4	-5.71E-1	2.21E+0
PM	disease inc.	5.48E-8	4.91E-9	7.39E-9	6.71E-8	2.93E-9	2.22E-8	1.83E-10	-1.07E-8	8.18E-8
IR	kBq U-235 eq	6.38E-2	3.46E-3	1.82E-3	6.90E-2	2.18E-3	1.70E-2	1.22E-4	-1.91E-2	6.92E-2
ETP-fw	CTUe	2.13E+1	7.36E-1	1.69E+0	2.37E+1	4.05E-1	3.58E+1	3.94E-1	-6.14E+0	5.42E+1
HTP-c	CTUh	8.70E-10	2.39E-11	5.75E-11	9.52E-10	1.44E-11	5.32E-10	6.91E-13	-2.21E-10	1.28E-9
HTP-nc	CTUh	2.59E-8	8.05E-10	1.76E-9	2.85E-8	4.83E-10	1.27E-8	7.58E-11	-7.39E-9	3.44E-8
SQP	Pt	1.41E+1	7.16E-1	7.56E-2	1.49E+1	4.26E-1	3.06E+0	6.76E-2	-3.02E+0	1.55E+1

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.95E+0	1.03E-2	3.05E+0	6.01E+0	7.15E-3	3.47E-1	9.58E-4	-8.11E-1	5.55E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.95E+0	1.03E-2	3.05E+0	6.01E+0	7.15E-3	3.47E-1	9.58E-4	-8.11E-1	5.55E+0
PENRE	MJ	3.30E+1	8.76E-1	1.09E+0	3.50E+1	5.29E-1	5.18E+0	2.83E-2	-1.30E+1	2.78E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.30E+1	8.76E-1	1.09E+0	3.50E+1	5.29E-1	5.18E+0	2.83E-2	-1.30E+1	2.78E+1
PET	MJ	3.60E+1	8.86E-1	4.14E+0	4.10E+1	5.36E-1	5.52E+0	2.93E-2	-1.38E+1	3.33E+1
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	2.18E-2	1.00E-4	1.61E-2	3.80E-2	5.64E-5	5.13E-3	3.27E-5	-6.14E-3	3.71E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.52E-5	2.09E-6	1.41E-6	2.87E-5	1.27E-6	7.83E-6	3.21E-8	-1.06E-5	2.72E-5
NHWD	kg	1.23E-1	5.23E-2	2.04E-3	1.77E-1	3.09E-2	1.81E-1	1.23E-1	-3.15E-2	4.81E-1
RWD	kg	5.75E-5	5.42E-6	2.54E-6	6.55E-5	3.39E-6	1.83E-5	1.74E-7	-1.72E-5	7.01E-5
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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