

Environmental Profile

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

Ecochain v3.5.80



Product: 3017588 - PVCU Branch 45° BR 500x250 SN4 UD
Unit: 1 piece
Manufacturer: Wavin - PL -Buk - Extra products

PVC external sewage pipes with a solid wall are produced in two classes of circumferential stiffness (SN8, SN4), which enables optimal selection depending on the load conditions. A wide portfolio of system fittings facilitates the construction of many schemes of sewage networks, as well as connections with systems made of other materials. Diameter range DN/OD 110-500mm. The pipes meet the requirements of the PN-EN 1401-1 standard.

LCA standard: EN15804+A2 (2019)
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 - PL -Buk - Extra products (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

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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.90E+1	5.18E-1	5.43E-2	5.95E+1	9.11E-1	3.27E+1	2.50E-1	-3.43E+1	5.92E+1
GWP-f	kg CO2 eq	6.49E+1	5.17E-1	5.48E-2	6.54E+1	9.10E-1	2.63E+1	2.50E-1	-3.40E+1	5.89E+1
GWP-b	kg CO2 eq	-5.94E+0	3.14E-4	-5.79E-4	-5.94E+0	5.53E-4	6.44E+0	3.21E-4	-2.25E-1	2.73E-1
GWP-luluc	kg CO2 eq	5.20E-2	1.83E-4	5.60E-5	5.23E-2	3.22E-4	1.04E-2	6.84E-6	-2.20E-2	4.10E-2
ODP	kg CFC11 eq	3.36E-5	1.19E-7	3.10E-9	3.38E-5	2.10E-7	2.75E-6	1.03E-8	-1.64E-5	2.03E-5
AP	mol H+ eq	2.95E-1	2.95E-3	5.53E-4	2.98E-1	5.18E-3	4.91E-2	2.47E-4	-1.27E-1	2.26E-1
EP-fw	kg P eq	2.75E-3	4.26E-6	3.09E-6	2.76E-3	7.49E-6	3.44E-4	3.08E-7	-1.21E-3	1.90E-3
EP-m	kg N eq	5.01E-2	1.05E-3	5.82E-5	5.12E-2	1.86E-3	1.22E-2	1.57E-4	-2.25E-2	4.29E-2
EP-T	mol N eq	5.47E-1	1.16E-2	6.95E-4	5.60E-1	2.04E-2	1.34E-1	9.87E-4	-2.44E-1	4.71E-1
POCP	kg NMVOC eq	1.92E-1	3.32E-3	2.35E-4	1.96E-1	5.84E-3	4.02E-2	3.34E-4	-8.24E-2	1.60E-1
ADP-mm	kg Sb eq	2.72E-3	1.34E-5	7.38E-6	2.74E-3	2.35E-5	1.92E-4	2.44E-7	-6.94E-4	2.26E-3
ADP-f	MJ	1.65E+3	7.94E+0	5.09E-1	1.65E+3	1.40E+1	1.34E+2	7.48E-1	-8.14E+2	9.89E+2
WDP	m3 depriv.	1.01E+2	2.44E-2	1.96E-2	1.01E+2	4.29E-2	5.12E+0	4.18E-3	-4.67E+1	5.91E+1
PM	disease inc.	2.34E-6	4.67E-8	3.41E-9	2.39E-6	8.22E-8	6.19E-7	5.11E-9	-8.35E-7	2.26E-6
IR	kBq U-235 eq	3.52E+0	3.47E-2	3.82E-4	3.55E+0	6.11E-2	4.67E-1	3.43E-3	-1.53E+0	2.56E+0
ETP-fw	CTUe	1.12E+3	6.45E+0	4.53E+0	1.13E+3	1.13E+1	9.68E+2	1.06E+1	-4.83E+2	1.64E+3
HTP-c	CTUh	4.52E-8	2.30E-10	2.31E-10	4.57E-8	4.04E-10	1.51E-8	1.92E-11	-1.76E-8	4.36E-8
HTP-nc	CTUh	1.37E-6	7.69E-9	5.87E-9	1.38E-6	1.35E-8	3.50E-7	2.05E-9	-6.04E-7	1.15E-6
SQP	Pt	8.04E+2	6.80E+0	8.40E-1	8.12E+2	1.20E+1	8.50E+1	1.89E+0	-2.10E+2	7.01E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.33E+2	1.14E-1	9.01E+0	2.42E+2	2.00E-1	9.47E+0	2.66E-2	-5.93E+1	1.93E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.33E+2	1.14E-1	9.01E+0	2.42E+2	2.00E-1	9.47E+0	2.66E-2	-5.93E+1	1.93E+2
PENRE	MJ	1.77E+3	8.43E+0	5.42E-1	1.77E+3	1.48E+1	1.43E+2	7.93E-1	-8.78E+2	1.05E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.77E+3	8.43E+0	5.42E-1	1.77E+3	1.48E+1	1.43E+2	7.93E-1	-8.78E+2	1.05E+3
PET	MJ	2.00E+3	8.55E+0	9.56E+0	2.02E+3	1.50E+1	1.52E+2	8.20E-1	-9.37E+2	1.25E+3
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	1.12E+0	8.99E-4	5.47E-4	1.12E+0	1.58E-3	1.43E-1	9.16E-4	-4.91E-1	7.78E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.32E-3	2.03E-5	1.02E-10	1.34E-3	3.57E-5	2.18E-4	8.99E-7	-6.89E-4	9.05E-4
NHWD	kg	6.35E+0	4.92E-1	3.95E-4	6.85E+0	8.66E-1	5.21E+0	3.51E+0	-2.54E+0	1.39E+1
RWD	kg	3.25E-3	5.40E-5	4.11E-11	3.30E-3	9.50E-5	5.05E-4	4.89E-6	-1.36E-3	2.55E-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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