

Environmental Profile

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

Ecochain v3.5.80



Product: 4001056 - PVCU Branch 45° BR 315x315 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	3.59E+1	2.92E-1	1.03E+0	3.73E+1	5.44E-1	1.84E+1	1.51E-1	-2.05E+1	3.58E+1
GWP-f	kg CO2 eq	3.85E+1	2.91E-1	1.04E+0	3.98E+1	5.43E-1	1.55E+1	1.50E-1	-2.04E+1	3.56E+1
GWP-b	kg CO2 eq	-2.57E+0	1.77E-4	-1.10E-2	-2.59E+0	3.30E-4	2.88E+0	1.93E-4	-1.36E-1	1.59E-1
GWP-luluc	kg CO2 eq	3.04E-2	1.03E-4	1.07E-3	3.16E-2	1.92E-4	6.22E-3	4.10E-6	-1.31E-2	2.49E-2
ODP	kg CFC11 eq	2.03E-5	6.72E-8	5.90E-8	2.04E-5	1.25E-7	1.65E-6	6.18E-9	-9.89E-6	1.23E-5
AP	mol H+ eq	1.74E-1	1.66E-3	1.05E-2	1.86E-1	3.09E-3	2.93E-2	1.48E-4	-7.60E-2	1.43E-1
EP-fw	kg P eq	1.63E-3	2.40E-6	5.88E-5	1.69E-3	4.47E-6	2.06E-4	1.85E-7	-7.26E-4	1.18E-3
EP-m	kg N eq	2.95E-2	5.94E-4	1.11E-3	3.12E-2	1.11E-3	7.22E-3	9.38E-5	-1.34E-2	2.62E-2
EP-T	mol N eq	3.21E-1	6.55E-3	1.32E-2	3.40E-1	1.22E-2	7.96E-2	5.91E-4	-1.45E-1	2.88E-1
POCP	kg NMVOC eq	1.13E-1	1.87E-3	4.48E-3	1.20E-1	3.49E-3	2.39E-2	2.00E-4	-4.91E-2	9.79E-2
ADP-mm	kg Sb eq	1.54E-3	7.54E-6	1.40E-4	1.69E-3	1.40E-5	1.15E-4	1.46E-7	-4.16E-4	1.40E-3
ADP-f	MJ	9.80E+2	4.47E+0	9.69E+0	9.94E+2	8.34E+0	8.04E+1	4.47E-1	-4.88E+2	5.95E+2
WDP	m3 depriv.	6.03E+1	1.37E-2	3.73E-1	6.07E+1	2.56E-2	3.08E+0	2.53E-3	-2.82E+1	3.56E+1
PM	disease inc.	1.33E-6	2.63E-8	6.48E-8	1.42E-6	4.90E-8	3.69E-7	3.06E-9	-4.95E-7	1.35E-6
IR	kBq U-235 eq	2.10E+0	1.96E-2	7.27E-3	2.12E+0	3.64E-2	2.79E-1	2.05E-3	-9.19E-1	1.52E+0
ETP-fw	CTUe	6.63E+2	3.63E+0	8.63E+1	7.53E+2	6.77E+0	5.83E+2	6.39E+0	-2.87E+2	1.06E+3
HTP-c	CTUh	2.64E-8	1.29E-10	4.40E-9	3.09E-8	2.41E-10	8.95E-9	1.15E-11	-1.05E-8	2.96E-8
HTP-nc	CTUh	8.15E-7	4.33E-9	1.12E-7	9.31E-7	8.07E-9	2.10E-7	1.24E-9	-3.62E-7	7.87E-7
SQP	Pt	3.90E+2	3.83E+0	1.60E+1	4.10E+2	7.13E+0	5.07E+1	1.13E+0	-1.07E+2	3.62E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.24E+2	6.42E-2	1.72E+2	2.96E+2	1.20E-1	5.68E+0	1.60E-2	-3.18E+1	2.70E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.24E+2	6.42E-2	1.72E+2	2.96E+2	1.20E-1	5.68E+0	1.60E-2	-3.18E+1	2.70E+2
PENRE	MJ	1.05E+3	4.75E+0	1.03E+1	1.07E+3	8.85E+0	8.55E+1	4.74E-1	-5.26E+2	6.35E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.05E+3	4.75E+0	1.03E+1	1.07E+3	8.85E+0	8.55E+1	4.74E-1	-5.26E+2	6.35E+2
PET	MJ	1.18E+3	4.81E+0	1.82E+2	1.36E+3	8.97E+0	9.12E+1	4.90E-1	-5.58E+2	9.05E+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	6.67E-1	5.06E-4	1.04E-2	6.78E-1	9.43E-4	8.57E-2	5.47E-4	-2.96E-1	4.70E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.82E-4	1.14E-5	1.95E-9	7.94E-4	2.13E-5	1.30E-4	5.38E-7	-4.12E-4	5.34E-4
NHWD	kg	3.70E+0	2.77E-1	7.53E-3	3.98E+0	5.17E-1	3.08E+0	2.09E+0	-1.53E+0	8.15E+0
RWD	kg	1.94E-3	3.04E-5	7.83E-10	1.97E-3	5.67E-5	3.02E-4	2.93E-6	-8.15E-4	1.51E-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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