

Environmental Profile

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

Ecochain v3.5.80



Product: 4000899 - PVCU Branch 45° BR 500 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]

Statement of Confidentiality

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.23E+2	1.10E+0	4.64E-1	1.25E+2	1.88E+0	6.61E+1	5.21E-1	-7.16E+1	1.22E+2
GWP-f	kg CO2 eq	1.35E+2	1.10E+0	4.68E-1	1.36E+2	1.88E+0	5.37E+1	5.20E-1	-7.11E+1	1.21E+2
GWP-b	kg CO2 eq	-1.13E+1	6.67E-4	-4.94E-3	-1.14E+1	1.14E-3	1.24E+1	6.69E-4	-4.74E-1	5.94E-1
GWP-luluc	kg CO2 eq	1.08E-1	3.89E-4	4.79E-4	1.08E-1	6.66E-4	2.17E-2	1.41E-5	-4.60E-2	8.48E-2
ODP	kg CFC11 eq	7.07E-5	2.53E-7	2.65E-8	7.09E-5	4.33E-7	5.79E-6	2.14E-8	-3.45E-5	4.27E-5
AP	mol H+ eq	6.09E-1	6.26E-3	4.73E-3	6.20E-1	1.07E-2	1.02E-1	5.10E-4	-2.66E-1	4.67E-1
EP-fw	kg P eq	5.73E-3	9.04E-6	2.64E-5	5.76E-3	1.55E-5	7.20E-4	6.37E-7	-2.54E-3	3.96E-3
EP-m	kg N eq	1.03E-1	2.24E-3	4.97E-4	1.06E-1	3.83E-3	2.52E-2	3.24E-4	-4.70E-2	8.86E-2
EP-T	mol N eq	1.13E+0	2.47E-2	5.94E-3	1.16E+0	4.22E-2	2.78E-1	2.04E-3	-5.09E-1	9.70E-1
POCP	kg NMVOC eq	3.95E-1	7.06E-3	2.01E-3	4.04E-1	1.21E-2	8.34E-2	6.93E-4	-1.72E-1	3.28E-1
ADP-mm	kg Sb eq	5.14E-3	2.84E-5	6.30E-5	5.23E-3	4.87E-5	4.00E-4	5.05E-7	-1.44E-3	4.24E-3
ADP-f	MJ	3.42E+3	1.69E+1	4.35E+0	3.44E+3	2.89E+1	2.80E+2	1.55E+0	-1.70E+3	2.04E+3
WDP	m3 depriv.	2.11E+2	5.18E-2	1.67E-1	2.12E+2	8.86E-2	1.07E+1	8.44E-3	-9.82E+1	1.24E+2
PM	disease inc.	4.74E-6	9.92E-8	2.91E-8	4.87E-6	1.70E-7	1.29E-6	1.06E-8	-1.74E-6	4.60E-6
IR	kBq U-235 eq	7.27E+0	7.37E-2	3.26E-3	7.35E+0	1.26E-1	9.75E-1	7.10E-3	-3.20E+0	5.25E+0
ETP-fw	CTUe	2.31E+3	1.37E+1	3.87E+1	2.36E+3	2.34E+1	2.04E+3	2.24E+1	-1.01E+3	3.44E+3
HTP-c	CTUh	9.28E-8	4.88E-10	1.98E-9	9.53E-8	8.34E-10	3.11E-8	3.97E-11	-3.69E-8	9.04E-8
HTP-nc	CTUh	2.85E-6	1.63E-8	5.02E-8	2.92E-6	2.79E-8	7.32E-7	4.32E-9	-1.27E-6	2.41E-6
SQP	Pt	1.57E+3	1.44E+1	7.18E+0	1.60E+3	2.47E+1	1.76E+2	3.92E+0	-4.19E+2	1.38E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.60E+2	2.42E-1	7.70E+1	5.37E+2	4.14E-1	1.98E+1	5.55E-2	-1.20E+2	4.37E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.60E+2	2.42E-1	7.70E+1	5.37E+2	4.14E-1	1.98E+1	5.55E-2	-1.20E+2	4.37E+2
PENRE	MJ	3.66E+3	1.79E+1	4.63E+0	3.69E+3	3.06E+1	2.98E+2	1.64E+0	-1.84E+3	2.18E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.66E+3	1.79E+1	4.63E+0	3.69E+3	3.06E+1	2.98E+2	1.64E+0	-1.84E+3	2.18E+3
PET	MJ	4.12E+3	1.82E+1	8.16E+1	4.22E+3	3.11E+1	3.18E+2	1.70E+0	-1.96E+3	2.62E+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	2.34E+0	1.91E-3	4.68E-3	2.34E+0	3.27E-3	2.99E-1	1.90E-3	-1.03E+0	1.61E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.72E-3	4.31E-5	8.75E-10	2.76E-3	7.38E-5	4.54E-4	1.86E-6	-1.44E-3	1.85E-3
NHWD	kg	1.30E+1	1.05E+0	3.38E-3	1.41E+1	1.79E+0	1.08E+1	7.23E+0	-5.34E+0	2.85E+1
RWD	kg	6.64E-3	1.15E-4	3.51E-10	6.75E-3	1.96E-4	1.05E-3	1.01E-5	-2.84E-3	5.17E-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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