

Environmental Profile

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

Ecochain v3.5.80



Product: 4001069 - PVCU Branch 45° BR 500x400 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	8.80E+1	7.71E-1	3.56E-2	8.88E+1	1.35E+0	4.90E+1	3.70E-1	-5.14E+1	8.82E+1
GWP-f	kg CO2 eq	9.69E+1	7.71E-1	3.59E-2	9.77E+1	1.35E+0	3.93E+1	3.70E-1	-5.10E+1	8.77E+1
GWP-b	kg CO2 eq	-9.02E+0	4.68E-4	-3.79E-4	-9.02E+0	8.18E-4	9.75E+0	4.75E-4	-3.36E-1	3.95E-1
GWP-luluc	kg CO2 eq	7.78E-2	2.73E-4	3.67E-5	7.81E-2	4.77E-4	1.54E-2	1.01E-5	-3.28E-2	6.13E-2
ODP	kg CFC11 eq	5.01E-5	1.78E-7	2.03E-9	5.02E-5	3.11E-7	4.11E-6	1.53E-8	-2.45E-5	3.02E-5
AP	mol H+ eq	4.39E-1	4.39E-3	3.63E-4	4.44E-1	7.68E-3	7.31E-2	3.65E-4	-1.89E-1	3.36E-1
EP-fw	kg P eq	4.11E-3	6.34E-6	2.02E-6	4.11E-3	1.11E-5	5.12E-4	4.55E-7	-1.80E-3	2.84E-3
EP-m	kg N eq	7.48E-2	1.57E-3	3.81E-5	7.64E-2	2.75E-3	1.81E-2	2.31E-4	-3.36E-2	6.39E-2
EP-T	mol N eq	8.16E-1	1.73E-2	4.56E-4	8.33E-1	3.03E-2	2.00E-1	1.46E-3	-3.64E-1	7.00E-1
POCP	kg NMVOC eq	2.87E-1	4.95E-3	1.54E-4	2.92E-1	8.65E-3	5.98E-2	4.95E-4	-1.23E-1	2.38E-1
ADP-mm	kg Sb eq	3.75E-3	1.99E-5	4.83E-6	3.78E-3	3.49E-5	2.85E-4	3.60E-7	-1.03E-3	3.07E-3
ADP-f	MJ	2.46E+3	1.18E+1	3.34E-1	2.47E+3	2.07E+1	2.00E+2	1.11E+0	-1.22E+3	1.47E+3
WDP	m3 depriv.	1.50E+2	3.63E-2	1.28E-2	1.50E+2	6.35E-2	7.63E+0	6.12E-3	-6.96E+1	8.86E+1
PM	disease inc.	3.47E-6	6.96E-8	2.23E-9	3.55E-6	1.22E-7	9.21E-7	7.56E-9	-1.24E-6	3.35E-6
IR	kBq U-235 eq	5.21E+0	5.17E-2	2.50E-4	5.26E+0	9.04E-2	6.95E-1	5.07E-3	-2.28E+0	3.77E+0
ETP-fw	CTUe	1.67E+3	9.61E+0	2.97E+0	1.68E+3	1.68E+1	1.45E+3	1.58E+1	-7.20E+2	2.44E+3
HTP-c	CTUh	6.70E-8	3.42E-10	1.52E-10	6.75E-8	5.98E-10	2.24E-8	2.83E-11	-2.62E-8	6.43E-8
HTP-nc	CTUh	2.04E-6	1.15E-8	3.85E-9	2.05E-6	2.00E-8	5.21E-7	3.06E-9	-9.01E-7	1.70E-6
SQP	Pt	1.21E+3	1.01E+1	5.51E-1	1.22E+3	1.77E+1	1.26E+2	2.80E+0	-3.15E+2	1.05E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.47E+2	1.70E-1	5.91E+0	3.53E+2	2.97E-1	1.41E+1	3.94E-2	-8.89E+1	2.79E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.47E+2	1.70E-1	5.91E+0	3.53E+2	2.97E-1	1.41E+1	3.94E-2	-8.89E+1	2.79E+2
PENRE	MJ	2.64E+3	1.26E+1	3.55E-1	2.65E+3	2.20E+1	2.13E+2	1.17E+0	-1.31E+3	1.57E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.64E+3	1.26E+1	3.55E-1	2.65E+3	2.20E+1	2.13E+2	1.17E+0	-1.31E+3	1.57E+3
PET	MJ	2.98E+3	1.27E+1	6.26E+0	3.00E+3	2.23E+1	2.27E+2	1.21E+0	-1.40E+3	1.85E+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	1.68E+0	1.34E-3	3.59E-4	1.68E+0	2.34E-3	2.13E-1	1.35E-3	-7.33E-1	1.16E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.95E-3	3.03E-5	6.71E-11	1.98E-3	5.29E-5	3.25E-4	1.33E-6	-1.03E-3	1.33E-3
NHWD	kg	9.41E+0	7.33E-1	2.59E-4	1.01E+1	1.28E+0	7.76E+0	5.18E+0	-3.80E+0	2.06E+1
RWD	kg	4.77E-3	8.05E-5	2.69E-11	4.85E-3	1.41E-4	7.52E-4	7.24E-6	-2.02E-3	3.73E-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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