

Environmental Profile

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

Ecochain v3.5.80



Product: 4001044 - PVCU Bend 15° BR 500 SN4
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	4.61E+1	4.08E-1	1.76E-1	4.66E+1	7.00E-1	2.56E+1	1.93E-1	-2.67E+1	4.64E+1
GWP-f	kg CO2 eq	5.05E+1	4.07E-1	1.77E-1	5.11E+1	6.99E-1	2.07E+1	1.93E-1	-2.65E+1	4.62E+1
GWP-b	kg CO2 eq	-4.51E+0	2.47E-4	-1.87E-3	-4.51E+0	4.24E-4	4.88E+0	2.48E-4	-1.74E-1	1.97E-1
GWP-luluc	kg CO2 eq	4.05E-2	1.44E-4	1.81E-4	4.08E-2	2.47E-4	8.00E-3	5.25E-6	-1.69E-2	3.21E-2
ODP	kg CFC11 eq	2.60E-5	9.39E-8	1.00E-8	2.61E-5	1.61E-7	2.13E-6	7.96E-9	-1.27E-5	1.57E-5
AP	mol H+ eq	2.29E-1	2.32E-3	1.79E-3	2.33E-1	3.98E-3	3.79E-2	1.90E-4	-9.81E-2	1.77E-1
EP-fw	kg P eq	2.14E-3	3.35E-6	1.00E-5	2.15E-3	5.75E-6	2.65E-4	2.36E-7	-9.31E-4	1.49E-3
EP-m	kg N eq	3.89E-2	8.30E-4	1.88E-4	4.00E-2	1.42E-3	9.39E-3	1.22E-4	-1.74E-2	3.35E-2
EP-T	mol N eq	4.24E-1	9.15E-3	2.25E-3	4.35E-1	1.57E-2	1.03E-1	7.60E-4	-1.89E-1	3.67E-1
POCP	kg NMVOC eq	1.50E-1	2.62E-3	7.62E-4	1.53E-1	4.49E-3	3.10E-2	2.58E-4	-6.38E-2	1.25E-1
ADP-mm	kg Sb eq	2.09E-3	1.05E-5	2.39E-5	2.12E-3	1.81E-5	1.48E-4	1.88E-7	-5.37E-4	1.75E-3
ADP-f	MJ	1.28E+3	6.25E+0	1.65E+0	1.29E+3	1.07E+1	1.04E+2	5.76E-1	-6.33E+2	7.72E+2
WDP	m3 depriv.	7.82E+1	1.92E-2	6.33E-2	7.83E+1	3.29E-2	3.96E+0	3.13E-3	-3.60E+1	4.63E+1
PM	disease inc.	1.81E-6	3.68E-8	1.10E-8	1.86E-6	6.31E-8	4.77E-7	3.94E-9	-6.44E-7	1.76E-6
IR	kBq U-235 eq	2.73E+0	2.73E-2	1.24E-3	2.75E+0	4.69E-2	3.60E-1	2.64E-3	-1.18E+0	1.98E+0
ETP-fw	CTUe	8.69E+2	5.08E+0	1.47E+1	8.89E+2	8.71E+0	7.50E+2	8.22E+0	-3.73E+2	1.28E+3
HTP-c	CTUh	3.46E-8	1.81E-10	7.49E-10	3.56E-8	3.10E-10	1.16E-8	1.47E-11	-1.36E-8	3.39E-8
HTP-nc	CTUh	1.06E-6	6.05E-9	1.90E-8	1.08E-6	1.04E-8	2.70E-7	1.59E-9	-4.66E-7	9.00E-7
SQP	Pt	6.11E+2	5.35E+0	2.72E+0	6.19E+2	9.18E+0	6.54E+1	1.46E+0	-1.60E+2	5.35E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.78E+2	8.97E-2	2.92E+1	2.07E+2	1.54E-1	7.31E+0	2.06E-2	-4.54E+1	1.69E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.78E+2	8.97E-2	2.92E+1	2.07E+2	1.54E-1	7.31E+0	2.06E-2	-4.54E+1	1.69E+2
PENRE	MJ	1.38E+3	6.64E+0	1.75E+0	1.38E+3	1.14E+1	1.10E+2	6.11E-1	-6.83E+2	8.24E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.38E+3	6.64E+0	1.75E+0	1.38E+3	1.14E+1	1.10E+2	6.11E-1	-6.83E+2	8.24E+2
PET	MJ	1.55E+3	6.73E+0	3.09E+1	1.59E+3	1.15E+1	1.17E+2	6.31E-1	-7.28E+2	9.93E+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	8.76E-1	7.07E-4	1.77E-3	8.78E-1	1.21E-3	1.11E-1	7.05E-4	-3.79E-1	6.12E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.00E-3	1.60E-5	3.32E-10	1.02E-3	2.74E-5	1.68E-4	6.91E-7	-5.37E-4	6.79E-4
NHWD	kg	4.84E+0	3.87E-1	1.28E-3	5.23E+0	6.65E-1	4.02E+0	2.70E+0	-1.96E+0	1.06E+1
RWD	kg	2.50E-3	4.25E-5	1.33E-10	2.55E-3	7.30E-5	3.89E-4	3.77E-6	-1.05E-3	1.97E-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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