

Environmental Profile

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

Ecochain v3.5.80



Product: 4001046 - PVCU Bend 45° 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]

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	6.82E+1	6.13E-1	4.82E-1	6.93E+1	1.03E+0	3.55E+1	2.86E-1	-3.94E+1	6.67E+1
GWP-f	kg CO2 eq	7.38E+1	6.12E-1	4.87E-1	7.49E+1	1.03E+0	2.92E+1	2.86E-1	-3.91E+1	6.63E+1
GWP-b	kg CO2 eq	-5.69E+0	3.72E-4	-5.14E-3	-5.69E+0	6.23E-4	6.29E+0	3.69E-4	-2.62E-1	3.34E-1
GWP-luluc	kg CO2 eq	5.88E-2	2.17E-4	4.97E-4	5.95E-2	3.63E-4	1.19E-2	7.71E-6	-2.53E-2	4.65E-2
ODP	kg CFC11 eq	3.90E-5	1.41E-7	2.75E-8	3.92E-5	2.36E-7	3.20E-6	1.17E-8	-1.90E-5	2.36E-5
AP	mol H+ eq	3.33E-1	3.49E-3	4.91E-3	3.41E-1	5.84E-3	5.61E-2	2.79E-4	-1.46E-1	2.57E-1
EP-fw	kg P eq	3.15E-3	5.04E-6	2.74E-5	3.18E-3	8.44E-6	3.96E-4	3.48E-7	-1.40E-3	2.19E-3
EP-m	kg N eq	5.65E-2	1.25E-3	5.16E-4	5.83E-2	2.09E-3	1.38E-2	1.77E-4	-2.58E-2	4.86E-2
EP-T	mol N eq	6.14E-1	1.38E-2	6.17E-3	6.34E-1	2.30E-2	1.52E-1	1.12E-3	-2.79E-1	5.31E-1
POCP	kg NMVOC eq	2.15E-1	3.93E-3	2.09E-3	2.21E-1	6.58E-3	4.56E-2	3.79E-4	-9.47E-2	1.79E-1
ADP-mm	kg Sb eq	2.74E-3	1.58E-5	6.55E-5	2.82E-3	2.65E-5	2.20E-4	2.76E-7	-7.95E-4	2.27E-3
ADP-f	MJ	1.87E+3	9.40E+0	4.52E+0	1.89E+3	1.57E+1	1.54E+2	8.46E-1	-9.38E+2	1.12E+3
WDP	m3 depriv.	1.17E+2	2.88E-2	1.74E-1	1.17E+2	4.83E-2	5.93E+0	4.52E-3	-5.42E+1	6.87E+1
PM	disease inc.	2.56E-6	5.53E-8	3.02E-8	2.65E-6	9.25E-8	7.04E-7	5.79E-9	-9.57E-7	2.49E-6
IR	kBq U-235 eq	3.98E+0	4.11E-2	3.39E-3	4.03E+0	6.88E-2	5.35E-1	3.89E-3	-1.77E+0	2.87E+0
ETP-fw	CTUe	1.26E+3	7.63E+0	4.02E+1	1.31E+3	1.28E+1	1.13E+3	1.24E+1	-5.54E+2	1.91E+3
HTP-c	CTUh	5.05E-8	2.72E-10	2.05E-9	5.29E-8	4.55E-10	1.69E-8	2.17E-11	-2.03E-8	5.00E-8
HTP-nc	CTUh	1.57E-6	9.10E-9	5.21E-8	1.63E-6	1.52E-8	4.03E-7	2.39E-9	-6.99E-7	1.35E-6
SQP	Pt	8.14E+2	8.04E+0	7.46E+0	8.30E+2	1.35E+1	9.64E+1	2.14E+0	-2.20E+2	7.22E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.40E+2	1.35E-1	8.00E+1	3.20E+2	2.26E-1	1.09E+1	3.05E-2	-6.42E+1	2.67E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.40E+2	1.35E-1	8.00E+1	3.20E+2	2.26E-1	1.09E+1	3.05E-2	-6.42E+1	2.67E+2
PENRE	MJ	2.01E+3	9.98E+0	4.81E+0	2.02E+3	1.67E+1	1.63E+2	8.98E-1	-1.01E+3	1.19E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.01E+3	9.98E+0	4.81E+0	2.02E+3	1.67E+1	1.63E+2	8.98E-1	-1.01E+3	1.19E+3
PET	MJ	2.25E+3	1.01E+1	8.48E+1	2.34E+3	1.69E+1	1.74E+2	9.29E-1	-1.08E+3	1.46E+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	1.28E+0	1.06E-3	4.86E-3	1.29E+0	1.78E-3	1.65E-1	1.04E-3	-5.70E-1	8.87E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.49E-3	2.40E-5	9.09E-10	1.51E-3	4.02E-5	2.49E-4	1.02E-6	-7.91E-4	1.01E-3
NHWD	kg	7.12E+0	5.83E-1	3.51E-3	7.71E+0	9.75E-1	5.86E+0	3.94E+0	-2.94E+0	1.55E+1
RWD	kg	3.62E-3	6.39E-5	3.65E-10	3.68E-3	1.07E-4	5.77E-4	5.54E-6	-1.57E-3	2.80E-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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