

Environmental Profile

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

Ecochain v3.5.80



Product: 4001041 - PVCU Bend 15° BR 400 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	2.87E+1	2.50E-1	2.81E-1	2.92E+1	4.43E-1	1.58E+1	1.23E-1	-1.68E+1	2.88E+1
GWP-f	kg CO2 eq	3.16E+1	2.50E-1	2.84E-1	3.22E+1	4.42E-1	1.26E+1	1.22E-1	-1.67E+1	2.86E+1
GWP-b	kg CO2 eq	-2.97E+0	1.52E-4	-2.99E-3	-2.97E+0	2.69E-4	3.22E+0	1.58E-4	-1.11E-1	1.40E-1
GWP-luluc	kg CO2 eq	2.54E-2	8.86E-5	2.90E-4	2.58E-2	1.57E-4	5.10E-3	3.32E-6	-1.09E-2	2.02E-2
ODP	kg CFC11 eq	1.66E-5	5.77E-8	1.60E-8	1.67E-5	1.02E-7	1.36E-6	5.04E-9	-8.10E-6	1.01E-5
AP	mol H+ eq	1.43E-1	1.43E-3	2.86E-3	1.47E-1	2.52E-3	2.41E-2	1.20E-4	-6.26E-2	1.11E-1
EP-fw	kg P eq	1.35E-3	2.06E-6	1.60E-5	1.36E-3	3.64E-6	1.69E-4	1.50E-7	-5.96E-4	9.42E-4
EP-m	kg N eq	2.43E-2	5.10E-4	3.01E-4	2.52E-2	9.02E-4	5.95E-3	7.64E-5	-1.11E-2	2.10E-2
EP-T	mol N eq	2.65E-1	5.62E-3	3.60E-3	2.74E-1	9.93E-3	6.56E-2	4.81E-4	-1.20E-1	2.30E-1
POCP	kg NMVOC eq	9.28E-2	1.61E-3	1.22E-3	9.56E-2	2.84E-3	1.96E-2	1.63E-4	-4.05E-2	7.77E-2
ADP-mm	kg Sb eq	1.22E-3	6.47E-6	3.82E-5	1.27E-3	1.14E-5	9.41E-5	1.19E-7	-3.40E-4	1.03E-3
ADP-f	MJ	8.01E+2	3.84E+0	2.63E+0	8.08E+2	6.79E+0	6.59E+1	3.64E-1	-4.00E+2	4.81E+2
WDP	m3 depriv.	4.97E+1	1.18E-2	1.01E-1	4.98E+1	2.08E-2	2.53E+0	1.97E-3	-2.31E+1	2.93E+1
PM	disease inc.	1.13E-6	2.26E-8	1.76E-8	1.17E-6	3.99E-8	3.03E-7	2.49E-9	-4.12E-7	1.10E-6
IR	kBq U-235 eq	1.71E+0	1.68E-2	1.98E-3	1.73E+0	2.97E-2	2.29E-1	1.67E-3	-7.53E-1	1.24E+0
ETP-fw	CTUe	5.44E+2	3.12E+0	2.35E+1	5.70E+2	5.51E+0	4.81E+2	5.27E+0	-2.38E+2	8.23E+2
HTP-c	CTUh	2.19E-8	1.11E-10	1.20E-9	2.32E-8	1.96E-10	7.32E-9	9.33E-12	-8.69E-9	2.20E-8
HTP-nc	CTUh	6.71E-7	3.72E-9	3.04E-8	7.05E-7	6.57E-9	1.72E-7	1.02E-9	-2.98E-7	5.86E-7
SQP	Pt	3.97E+2	3.29E+0	4.35E+0	4.04E+2	5.81E+0	4.15E+1	9.22E-1	-1.04E+2	3.48E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.12E+2	5.51E-2	4.66E+1	1.59E+2	9.74E-2	4.67E+0	1.31E-2	-2.94E+1	1.34E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.12E+2	5.51E-2	4.66E+1	1.59E+2	9.74E-2	4.67E+0	1.31E-2	-2.94E+1	1.34E+2
PENRE	MJ	8.60E+2	4.08E+0	2.80E+0	8.67E+2	7.21E+0	7.01E+1	3.86E-1	-4.31E+2	5.13E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.60E+2	4.08E+0	2.80E+0	8.67E+2	7.21E+0	7.01E+1	3.86E-1	-4.31E+2	5.13E+2
PET	MJ	9.72E+2	4.13E+0	4.95E+1	1.03E+3	7.31E+0	7.47E+1	4.00E-1	-4.60E+2	6.48E+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	5.49E-1	4.35E-4	2.83E-3	5.52E-1	7.68E-4	7.04E-2	4.46E-4	-2.43E-1	3.81E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.38E-4	9.82E-6	5.30E-10	6.48E-4	1.74E-5	1.07E-4	4.38E-7	-3.37E-4	4.35E-4
NHWD	kg	3.05E+0	2.38E-1	2.05E-3	3.29E+0	4.21E-1	2.53E+0	1.70E+0	-1.26E+0	6.69E+0
RWD	kg	1.56E-3	2.61E-5	2.13E-10	1.59E-3	4.62E-5	2.48E-4	2.38E-6	-6.68E-4	1.22E-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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