

Environmental Profile

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

Ecochain v3.5.80



Product: 4001081 - PVCU Reducer BR 400x315 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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	1.62E+1	1.31E-1	2.89E-1	1.66E+1	2.46E-1	8.39E+0	6.78E-2	-9.23E+0	1.61E+1
GWP-f	kg CO2 eq	1.74E+1	1.31E-1	2.92E-1	1.78E+1	2.46E-1	7.02E+0	6.78E-2	-9.16E+0	1.60E+1
GWP-b	kg CO2 eq	-1.23E+0	7.93E-5	-3.08E-3	-1.23E+0	1.49E-4	1.37E+0	8.71E-5	-6.10E-2	7.44E-2
GWP-luluc	kg CO2 eq	1.38E-2	4.62E-5	2.98E-4	1.41E-2	8.71E-5	2.81E-3	1.84E-6	-5.90E-3	1.11E-2
ODP	kg CFC11 eq	9.12E-6	3.01E-8	1.65E-8	9.17E-6	5.67E-8	7.48E-7	2.80E-9	-4.45E-6	5.53E-6
AP	mol H+ eq	7.88E-2	7.44E-4	2.95E-3	8.25E-2	1.40E-3	1.33E-2	6.67E-5	-3.42E-2	6.30E-2
EP-fw	kg P eq	7.39E-4	1.07E-6	1.64E-5	7.57E-4	2.03E-6	9.32E-5	8.31E-8	-3.27E-4	5.26E-4
EP-m	kg N eq	1.33E-2	2.66E-4	3.10E-4	1.39E-2	5.02E-4	3.27E-3	4.27E-5	-6.03E-3	1.17E-2
EP-T	mol N eq	1.45E-1	2.93E-3	3.70E-3	1.52E-1	5.53E-3	3.61E-2	2.67E-4	-6.51E-2	1.29E-1
POCP	kg NMVOC eq	5.11E-2	8.39E-4	1.25E-3	5.32E-2	1.58E-3	1.08E-2	9.06E-5	-2.21E-2	4.35E-2
ADP-mm	kg Sb eq	7.25E-4	3.38E-6	3.93E-5	7.68E-4	6.37E-6	5.19E-5	6.59E-8	-1.88E-4	6.38E-4
ADP-f	MJ	4.42E+2	2.00E+0	2.71E+0	4.46E+2	3.78E+0	3.64E+1	2.02E-1	-2.20E+2	2.67E+2
WDP	m3 depriv.	2.73E+1	6.15E-3	1.04E-1	2.74E+1	1.16E-2	1.39E+0	1.11E-3	-1.27E+1	1.61E+1
PM	disease inc.	6.09E-7	1.18E-8	1.81E-8	6.39E-7	2.22E-8	1.67E-7	1.38E-9	-2.23E-7	6.06E-7
IR	kBq U-235 eq	9.43E-1	8.76E-3	2.03E-3	9.54E-1	1.65E-2	1.26E-1	9.29E-4	-4.13E-1	6.85E-1
ETP-fw	CTUe	3.00E+2	1.63E+0	2.41E+1	3.26E+2	3.07E+0	2.64E+2	2.89E+0	-1.29E+2	4.66E+2
HTP-c	CTUh	1.20E-8	5.79E-11	1.23E-9	1.33E-8	1.09E-10	4.02E-9	5.17E-12	-4.75E-9	1.27E-8
HTP-nc	CTUh	3.69E-7	1.94E-9	3.13E-8	4.02E-7	3.66E-9	9.47E-8	5.58E-10	-1.63E-7	3.38E-7
SQP	Pt	1.82E+2	1.72E+0	4.47E+0	1.88E+2	3.23E+0	2.30E+1	5.12E-1	-4.95E+1	1.66E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.77E+1	2.88E-2	4.80E+1	1.06E+2	5.42E-2	2.57E+0	7.23E-3	-1.46E+1	9.38E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.77E+1	2.88E-2	4.80E+1	1.06E+2	5.42E-2	2.57E+0	7.23E-3	-1.46E+1	9.38E+1
PENRE	MJ	4.74E+2	2.13E+0	2.88E+0	4.79E+2	4.01E+0	3.87E+1	2.15E-1	-2.37E+2	2.85E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.74E+2	2.13E+0	2.88E+0	4.79E+2	4.01E+0	3.87E+1	2.15E-1	-2.37E+2	2.85E+2
PET	MJ	5.31E+2	2.16E+0	5.09E+1	5.85E+2	4.07E+0	4.13E+1	2.22E-1	-2.51E+2	3.79E+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	3.02E-1	2.27E-4	2.91E-3	3.05E-1	4.28E-4	3.88E-2	2.48E-4	-1.33E-1	2.11E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.50E-4	5.13E-6	5.45E-10	3.56E-4	9.66E-6	5.90E-5	2.43E-7	-1.85E-4	2.39E-4
NHWD	kg	1.68E+0	1.24E-1	2.11E-3	1.81E+0	2.34E-1	1.40E+0	9.48E-1	-6.87E-1	3.70E+0
RWD	kg	8.66E-4	1.36E-5	2.19E-10	8.79E-4	2.57E-5	1.37E-4	1.32E-6	-3.67E-4	6.76E-4
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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