

Environmental Profile

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

Ecochain v3.5.80



Product: 4001082 - PVCU Reducer 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	3.78E+1	3.25E-1	3.17E-1	3.84E+1	5.94E-1	2.18E+1	1.60E-1	-2.24E+1	3.86E+1
GWP-f	kg CO2 eq	4.22E+1	3.24E-1	3.20E-1	4.28E+1	5.93E-1	1.71E+1	1.60E-1	-2.22E+1	3.84E+1
GWP-b	kg CO2 eq	-4.42E+0	1.97E-4	-3.37E-3	-4.43E+0	3.60E-4	4.74E+0	2.06E-4	-1.47E-1	1.67E-1
GWP-luluc	kg CO2 eq	3.40E-2	1.15E-4	3.27E-4	3.45E-2	2.10E-4	6.74E-3	4.43E-6	-1.43E-2	2.71E-2
ODP	kg CFC11 eq	2.17E-5	7.47E-8	1.81E-8	2.18E-5	1.37E-7	1.78E-6	6.69E-9	-1.07E-5	1.30E-5
AP	mol H+ eq	1.92E-1	1.85E-3	3.22E-3	1.97E-1	3.38E-3	3.20E-2	1.59E-4	-8.27E-2	1.49E-1
EP-fw	kg P eq	1.78E-3	2.67E-6	1.80E-5	1.80E-3	4.88E-6	2.23E-4	1.99E-7	-7.84E-4	1.25E-3
EP-m	kg N eq	3.27E-2	6.61E-4	3.39E-4	3.37E-2	1.21E-3	7.94E-3	9.90E-5	-1.47E-2	2.83E-2
EP-T	mol N eq	3.57E-1	7.29E-3	4.05E-3	3.69E-1	1.33E-2	8.75E-2	6.38E-4	-1.60E-1	3.11E-1
POCP	kg NMVOC eq	1.26E-1	2.08E-3	1.37E-3	1.29E-1	3.81E-3	2.63E-2	2.16E-4	-5.37E-2	1.06E-1
ADP-mm	kg Sb eq	1.53E-3	8.39E-6	4.30E-5	1.58E-3	1.53E-5	1.25E-4	1.58E-7	-4.43E-4	1.28E-3
ADP-f	MJ	1.07E+3	4.98E+0	2.97E+0	1.08E+3	9.10E+0	8.76E+1	4.83E-1	-5.30E+2	6.45E+2
WDP	m3 depriv.	6.52E+1	1.53E-2	1.14E-1	6.53E+1	2.79E-2	3.32E+0	2.81E-3	-3.03E+1	3.83E+1
PM	disease inc.	1.53E-6	2.93E-8	1.99E-8	1.58E-6	5.35E-8	4.05E-7	3.30E-9	-5.46E-7	1.50E-6
IR	kBq U-235 eq	2.26E+0	2.18E-2	2.23E-3	2.28E+0	3.98E-2	3.04E-1	2.21E-3	-9.91E-1	1.64E+0
ETP-fw	CTUe	7.29E+2	4.04E+0	2.64E+1	7.59E+2	7.39E+0	6.25E+2	6.84E+0	-3.16E+2	1.08E+3
HTP-c	CTUh	2.95E-8	1.44E-10	1.35E-9	3.10E-8	2.63E-10	9.98E-9	1.24E-11	-1.15E-8	2.98E-8
HTP-nc	CTUh	8.88E-7	4.82E-9	3.42E-8	9.27E-7	8.81E-9	2.27E-7	1.32E-9	-3.93E-7	7.72E-7
SQP	Pt	5.72E+2	4.26E+0	4.90E+0	5.82E+2	7.79E+0	5.56E+1	1.22E+0	-1.47E+2	4.99E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.61E+2	7.14E-2	5.25E+1	2.14E+2	1.31E-1	6.15E+0	1.70E-2	-4.07E+1	1.80E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.61E+2	7.14E-2	5.25E+1	2.14E+2	1.31E-1	6.15E+0	1.70E-2	-4.07E+1	1.80E+2
PENRE	MJ	1.15E+3	5.29E+0	3.16E+0	1.16E+3	9.67E+0	9.32E+1	5.13E-1	-5.72E+2	6.88E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.15E+3	5.29E+0	3.16E+0	1.16E+3	9.67E+0	9.32E+1	5.13E-1	-5.72E+2	6.88E+2
PET	MJ	1.31E+3	5.36E+0	5.57E+1	1.37E+3	9.80E+0	9.94E+1	5.30E-1	-6.12E+2	8.68E+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	7.30E-1	5.63E-4	3.19E-3	7.33E-1	1.03E-3	9.23E-2	5.91E-4	-3.19E-1	5.08E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.57E-4	1.27E-5	5.97E-10	8.70E-4	2.33E-5	1.42E-4	5.82E-7	-4.49E-4	5.87E-4
NHWD	kg	4.13E+0	3.09E-1	2.30E-3	4.44E+0	5.64E-1	3.43E+0	2.27E+0	-1.66E+0	9.05E+0
RWD	kg	2.07E-3	3.39E-5	2.40E-10	2.11E-3	6.19E-5	3.30E-4	3.16E-6	-8.79E-4	1.62E-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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