

Environmental Profile

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

Ecochain v3.5.80



Product: 4001064 - PVCU Branch 87° BR 400 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	5.22E+1	4.51E-1	3.78E-1	5.30E+1	8.00E-1	2.92E+1	2.22E-1	-3.06E+1	5.27E+1
GWP-f	kg CO2 eq	5.76E+1	4.51E-1	3.81E-1	5.85E+1	7.99E-1	2.33E+1	2.22E-1	-3.03E+1	5.24E+1
GWP-b	kg CO2 eq	-5.47E+0	2.74E-4	-4.02E-3	-5.47E+0	4.85E-4	5.90E+0	2.84E-4	-2.00E-1	2.36E-1
GWP-luluc	kg CO2 eq	4.63E-2	1.60E-4	3.90E-4	4.69E-2	2.83E-4	9.18E-3	6.02E-6	-1.96E-2	3.68E-2
ODP	kg CFC11 eq	3.00E-5	1.04E-7	2.16E-8	3.01E-5	1.84E-7	2.45E-6	9.10E-9	-1.46E-5	1.81E-5
AP	mol H+ eq	2.61E-1	2.57E-3	3.85E-3	2.68E-1	4.55E-3	4.34E-2	2.17E-4	-1.13E-1	2.03E-1
EP-fw	kg P eq	2.44E-3	3.71E-6	2.15E-5	2.47E-3	6.57E-6	3.04E-4	2.71E-7	-1.07E-3	1.71E-3
EP-m	kg N eq	4.45E-2	9.19E-4	4.05E-4	4.58E-2	1.63E-3	1.07E-2	1.39E-4	-2.00E-2	3.83E-2
EP-T	mol N eq	4.85E-1	1.01E-2	4.84E-3	5.00E-1	1.79E-2	1.18E-1	8.70E-4	-2.17E-1	4.20E-1
POCP	kg NMVOC eq	1.71E-1	2.89E-3	1.64E-3	1.75E-1	5.13E-3	3.55E-2	2.95E-4	-7.34E-2	1.43E-1
ADP-mm	kg Sb eq	2.30E-3	1.17E-5	5.13E-5	2.37E-3	2.07E-5	1.69E-4	2.15E-7	-6.15E-4	1.94E-3
ADP-f	MJ	1.46E+3	6.92E+0	3.54E+0	1.47E+3	1.23E+1	1.19E+2	6.58E-1	-7.25E+2	8.80E+2
WDP	m3 depriv.	8.96E+1	2.12E-2	1.36E-1	8.98E+1	3.76E-2	4.54E+0	3.65E-3	-4.15E+1	5.28E+1
PM	disease inc.	2.07E-6	4.07E-8	2.37E-8	2.14E-6	7.21E-8	5.46E-7	4.50E-9	-7.44E-7	2.02E-6
IR	kBq U-235 eq	3.12E+0	3.02E-2	2.65E-3	3.16E+0	5.36E-2	4.13E-1	3.02E-3	-1.36E+0	2.27E+0
ETP-fw	CTUe	9.93E+2	5.62E+0	3.15E+1	1.03E+3	9.96E+0	8.62E+2	9.45E+0	-4.30E+2	1.48E+3
HTP-c	CTUh	3.98E-8	2.00E-10	1.61E-9	4.16E-8	3.54E-10	1.33E-8	1.69E-11	-1.57E-8	3.96E-8
HTP-nc	CTUh	1.21E-6	6.70E-9	4.08E-8	1.26E-6	1.19E-8	3.10E-7	1.83E-9	-5.38E-7	1.05E-6
SQP	Pt	7.28E+2	5.92E+0	5.84E+0	7.40E+2	1.05E+1	7.49E+1	1.67E+0	-1.90E+2	6.37E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.05E+2	9.92E-2	6.27E+1	2.68E+2	1.76E-1	8.39E+0	2.36E-2	-5.34E+1	2.23E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.05E+2	9.92E-2	6.27E+1	2.68E+2	1.76E-1	8.39E+0	2.36E-2	-5.34E+1	2.23E+2
PENRE	MJ	1.57E+3	7.34E+0	3.77E+0	1.58E+3	1.30E+1	1.26E+2	6.99E-1	-7.82E+2	9.39E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.57E+3	7.34E+0	3.77E+0	1.58E+3	1.30E+1	1.26E+2	6.99E-1	-7.82E+2	9.39E+2
PET	MJ	1.77E+3	7.44E+0	6.65E+1	1.85E+3	1.32E+1	1.35E+2	7.22E-1	-8.36E+2	1.16E+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	9.98E-1	7.83E-4	3.81E-3	1.00E+0	1.39E-3	1.27E-1	8.07E-4	-4.37E-1	6.95E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.17E-3	1.77E-5	7.12E-10	1.18E-3	3.14E-5	1.93E-4	7.92E-7	-6.14E-4	7.94E-4
NHWD	kg	5.59E+0	4.29E-1	2.75E-3	6.02E+0	7.60E-1	4.59E+0	3.07E+0	-2.27E+0	1.22E+1
RWD	kg	2.87E-3	4.70E-5	2.86E-10	2.92E-3	8.34E-5	4.46E-4	4.31E-6	-1.21E-3	2.25E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777