

Environmental Profile

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

Ecochain v3.5.80



Product: 4001065 - PVCU Branch 45° BR 400x200 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	3.31E+1	2.85E-1	2.03E-1	3.36E+1	5.14E-1	1.84E+1	1.42E-1	-1.94E+1	3.32E+1
GWP-f	kg CO2 eq	3.65E+1	2.85E-1	2.05E-1	3.70E+1	5.13E-1	1.46E+1	1.42E-1	-1.92E+1	3.30E+1
GWP-b	kg CO2 eq	-3.46E+0	1.73E-4	-2.16E-3	-3.46E+0	3.12E-4	3.75E+0	1.82E-4	-1.28E-1	1.59E-1
GWP-luluc	kg CO2 eq	2.93E-2	1.01E-4	2.09E-4	2.96E-2	1.82E-4	5.88E-3	3.87E-6	-1.25E-2	2.32E-2
ODP	kg CFC11 eq	1.91E-5	6.57E-8	1.16E-8	1.92E-5	1.18E-7	1.56E-6	5.84E-9	-9.34E-6	1.15E-5
AP	mol H+ eq	1.66E-1	1.62E-3	2.06E-3	1.69E-1	2.92E-3	2.78E-2	1.39E-4	-7.21E-2	1.28E-1
EP-fw	kg P eq	1.55E-3	2.35E-6	1.15E-5	1.56E-3	4.22E-6	1.95E-4	1.74E-7	-6.87E-4	1.08E-3
EP-m	kg N eq	2.82E-2	5.81E-4	2.17E-4	2.90E-2	1.05E-3	6.87E-3	8.82E-5	-1.28E-2	2.42E-2
EP-T	mol N eq	3.08E-1	6.41E-3	2.60E-3	3.17E-1	1.15E-2	7.57E-2	5.57E-4	-1.39E-1	2.66E-1
POCP	kg NMVOC eq	1.08E-1	1.83E-3	8.78E-4	1.11E-1	3.30E-3	2.27E-2	1.89E-4	-4.68E-2	9.01E-2
ADP-mm	kg Sb eq	1.45E-3	7.38E-6	2.75E-5	1.48E-3	1.33E-5	1.08E-4	1.38E-7	-3.92E-4	1.21E-3
ADP-f	MJ	9.27E+2	4.38E+0	1.90E+0	9.34E+2	7.88E+0	7.61E+1	4.22E-1	-4.61E+2	5.57E+2
WDP	m3 depriv.	5.70E+1	1.34E-2	7.30E-2	5.71E+1	2.42E-2	2.90E+0	2.39E-3	-2.66E+1	3.34E+1
PM	disease inc.	1.31E-6	2.57E-8	1.27E-8	1.35E-6	4.63E-8	3.50E-7	2.89E-9	-4.75E-7	1.28E-6
IR	kBq U-235 eq	1.99E+0	1.91E-2	1.42E-3	2.01E+0	3.44E-2	2.64E-1	1.93E-3	-8.68E-1	1.44E+0
ETP-fw	CTUe	6.32E+2	3.55E+0	1.69E+1	6.52E+2	6.40E+0	5.50E+2	6.03E+0	-2.75E+2	9.40E+2
HTP-c	CTUh	2.54E-8	1.27E-10	8.63E-10	2.64E-8	2.28E-10	8.53E-9	1.09E-11	-1.00E-8	2.52E-8
HTP-nc	CTUh	7.74E-7	4.24E-9	2.19E-8	8.00E-7	7.63E-9	1.98E-7	1.17E-9	-3.44E-7	6.64E-7
SQP	Pt	4.63E+2	3.75E+0	3.14E+0	4.70E+2	6.74E+0	4.80E+1	1.07E+0	-1.21E+2	4.05E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.32E+2	6.28E-2	3.36E+1	1.65E+2	1.13E-1	5.37E+0	1.50E-2	-3.41E+1	1.37E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.32E+2	6.28E-2	3.36E+1	1.65E+2	1.13E-1	5.37E+0	1.50E-2	-3.41E+1	1.37E+2
PENRE	MJ	9.95E+2	4.65E+0	2.02E+0	1.00E+3	8.37E+0	8.09E+1	4.48E-1	-4.97E+2	5.94E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.95E+2	4.65E+0	2.02E+0	1.00E+3	8.37E+0	8.09E+1	4.48E-1	-4.97E+2	5.94E+2
PET	MJ	1.13E+3	4.71E+0	3.57E+1	1.17E+3	8.48E+0	8.63E+1	4.63E-1	-5.31E+2	7.31E+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	6.32E-1	4.95E-4	2.04E-3	6.35E-1	8.92E-4	8.10E-2	5.17E-4	-2.80E-1	4.38E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.48E-4	1.12E-5	3.82E-10	7.59E-4	2.02E-5	1.23E-4	5.08E-7	-3.89E-4	5.14E-4
NHWD	kg	3.57E+0	2.71E-1	1.48E-3	3.84E+0	4.88E-1	2.94E+0	1.97E+0	-1.45E+0	7.79E+0
RWD	kg	1.83E-3	2.98E-5	1.53E-10	1.86E-3	5.36E-5	2.86E-4	2.76E-6	-7.70E-4	1.43E-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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