

Environmental Profile

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

Ecochain v3.5.80



Product: 4001063 - PVCU Branch 45° 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]

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	6.49E+1	5.61E-1	1.47E-1	6.56E+1	9.84E-1	3.69E+1	2.70E-1	-3.81E+1	6.56E+1
GWP-f	kg CO2 eq	7.18E+1	5.60E-1	1.48E-1	7.25E+1	9.83E-1	2.94E+1	2.70E-1	-3.78E+1	6.53E+1
GWP-b	kg CO2 eq	-6.98E+0	3.40E-4	-1.56E-3	-6.98E+0	5.97E-4	7.49E+0	3.47E-4	-2.46E-1	2.67E-1
GWP-luluc	kg CO2 eq	5.78E-2	1.98E-4	1.51E-4	5.81E-2	3.48E-4	1.13E-2	7.37E-6	-2.41E-2	4.57E-2
ODP	kg CFC11 eq	3.67E-5	1.29E-7	8.37E-9	3.68E-5	2.27E-7	3.01E-6	1.12E-8	-1.80E-5	2.21E-5
AP	mol H+ eq	3.25E-1	3.19E-3	1.49E-3	3.30E-1	5.60E-3	5.36E-2	2.66E-4	-1.39E-1	2.50E-1
EP-fw	kg P eq	3.03E-3	4.61E-6	8.35E-6	3.05E-3	8.09E-6	3.75E-4	3.32E-7	-1.32E-3	2.11E-3
EP-m	kg N eq	5.55E-2	1.14E-3	1.57E-4	5.68E-2	2.00E-3	1.33E-2	1.68E-4	-2.47E-2	4.75E-2
EP-T	mol N eq	6.05E-1	1.26E-2	1.88E-3	6.19E-1	2.21E-2	1.47E-1	1.07E-3	-2.69E-1	5.20E-1
POCP	kg NMVOC eq	2.13E-1	3.60E-3	6.36E-4	2.18E-1	6.31E-3	4.39E-2	3.61E-4	-9.07E-2	1.78E-1
ADP-mm	kg Sb eq	2.66E-3	1.45E-5	1.99E-5	2.70E-3	2.54E-5	2.09E-4	2.63E-7	-7.49E-4	2.18E-3
ADP-f	MJ	1.82E+3	8.60E+0	1.38E+0	1.83E+3	1.51E+1	1.46E+2	8.07E-1	-9.00E+2	1.09E+3
WDP	m3 depriv.	1.11E+2	2.64E-2	5.29E-2	1.11E+2	4.63E-2	5.58E+0	4.48E-3	-5.10E+1	6.55E+1
PM	disease inc.	2.58E-6	5.06E-8	9.21E-9	2.64E-6	8.87E-8	6.75E-7	5.52E-9	-9.16E-7	2.49E-6
IR	kBq U-235 eq	3.83E+0	3.76E-2	1.03E-3	3.87E+0	6.60E-2	5.09E-1	3.70E-3	-1.67E+0	2.78E+0
ETP-fw	CTUe	1.23E+3	6.98E+0	1.23E+1	1.25E+3	1.23E+1	1.06E+3	1.16E+1	-5.30E+2	1.80E+3
HTP-c	CTUh	4.93E-8	2.48E-10	6.25E-10	5.01E-8	4.36E-10	1.65E-8	2.07E-11	-1.93E-8	4.78E-8
HTP-nc	CTUh	1.50E-6	8.32E-9	1.59E-8	1.52E-6	1.46E-8	3.82E-7	2.24E-9	-6.61E-7	1.26E-6
SQP	Pt	9.20E+2	7.35E+0	2.27E+0	9.30E+2	1.29E+1	9.24E+1	2.04E+0	-2.38E+2	7.99E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.58E+2	1.23E-1	2.44E+1	2.83E+2	2.16E-1	1.03E+1	2.88E-2	-6.66E+1	2.27E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.58E+2	1.23E-1	2.44E+1	2.83E+2	2.16E-1	1.03E+1	2.88E-2	-6.66E+1	2.27E+2
PENRE	MJ	1.95E+3	9.13E+0	1.46E+0	1.97E+3	1.60E+1	1.56E+2	8.56E-1	-9.71E+2	1.17E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.95E+3	9.13E+0	1.46E+0	1.97E+3	1.60E+1	1.56E+2	8.56E-1	-9.71E+2	1.17E+3
PET	MJ	2.21E+3	9.25E+0	2.58E+1	2.25E+3	1.62E+1	1.66E+2	8.85E-1	-1.04E+3	1.39E+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	1.24E+0	9.73E-4	1.48E-3	1.25E+0	1.71E-3	1.56E-1	9.88E-4	-5.37E-1	8.67E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.43E-3	2.20E-5	2.77E-10	1.45E-3	3.86E-5	2.38E-4	9.70E-7	-7.65E-4	9.65E-4
NHWD	kg	6.94E+0	5.33E-1	1.07E-3	7.48E+0	9.35E-1	5.72E+0	3.78E+0	-2.79E+0	1.51E+1
RWD	kg	3.50E-3	5.85E-5	1.11E-10	3.56E-3	1.03E-4	5.51E-4	5.28E-6	-1.48E-3	2.73E-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