

Environmental Profile

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

Ecochain v3.5.80



Product: 4001042 - PVCU Bend 45° BR 400 SN4
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	2.87E+1	2.50E-1	3.60E-1	2.93E+1	4.49E-1	1.61E+1	1.23E-1	-1.69E+1	2.91E+1
GWP-f	kg CO2 eq	3.19E+1	2.50E-1	3.64E-1	3.25E+1	4.49E-1	1.27E+1	1.23E-1	-1.68E+1	2.90E+1
GWP-b	kg CO2 eq	-3.18E+0	1.52E-4	-3.84E-3	-3.19E+0	2.73E-4	3.44E+0	1.59E-4	-1.12E-1	1.40E-1
GWP-luluc	kg CO2 eq	2.57E-2	8.84E-5	3.72E-4	2.62E-2	1.59E-4	5.15E-3	3.36E-6	-1.10E-2	2.05E-2
ODP	kg CFC11 eq	1.67E-5	5.76E-8	2.06E-8	1.68E-5	1.03E-7	1.37E-6	5.10E-9	-8.15E-6	1.01E-5
AP	mol H+ eq	1.44E-1	1.42E-3	3.67E-3	1.49E-1	2.56E-3	2.44E-2	1.22E-4	-6.31E-2	1.13E-1
EP-fw	kg P eq	1.36E-3	2.06E-6	2.05E-5	1.38E-3	3.70E-6	1.71E-4	1.51E-7	-6.00E-4	9.54E-4
EP-m	kg N eq	2.46E-2	5.09E-4	3.86E-4	2.55E-2	9.15E-4	6.02E-3	7.71E-5	-1.12E-2	2.13E-2
EP-T	mol N eq	2.68E-1	5.61E-3	4.61E-3	2.78E-1	1.01E-2	6.64E-2	4.87E-4	-1.21E-1	2.34E-1
POCP	kg NMVOC eq	9.38E-2	1.60E-3	1.56E-3	9.69E-2	2.88E-3	1.99E-2	1.65E-4	-4.09E-2	7.90E-2
ADP-mm	kg Sb eq	1.23E-3	6.46E-6	4.89E-5	1.29E-3	1.16E-5	9.51E-5	1.20E-7	-3.42E-4	1.05E-3
ADP-f	MJ	8.07E+2	3.84E+0	3.38E+0	8.15E+2	6.89E+0	6.67E+1	3.69E-1	-4.02E+2	4.86E+2
WDP	m3 depriv.	5.00E+1	1.18E-2	1.30E-1	5.01E+1	2.12E-2	2.55E+0	2.01E-3	-2.32E+1	2.95E+1
PM	disease inc.	1.15E-6	2.26E-8	2.26E-8	1.19E-6	4.05E-8	3.07E-7	2.52E-9	-4.16E-7	1.13E-6
IR	kBq U-235 eq	1.72E+0	1.68E-2	2.53E-3	1.74E+0	3.01E-2	2.32E-1	1.69E-3	-7.59E-1	1.25E+0
ETP-fw	CTUe	5.50E+2	3.11E+0	3.01E+1	5.83E+2	5.60E+0	4.83E+2	5.30E+0	-2.41E+2	8.36E+2
HTP-c	CTUh	2.22E-8	1.11E-10	1.53E-9	2.39E-8	1.99E-10	7.43E-9	9.43E-12	-8.76E-9	2.27E-8
HTP-nc	CTUh	6.77E-7	3.71E-9	3.89E-8	7.20E-7	6.67E-9	1.74E-7	1.02E-9	-3.01E-7	6.01E-7
SQP	Pt	4.17E+2	3.28E+0	5.57E+0	4.26E+2	5.90E+0	4.21E+1	9.32E-1	-1.09E+2	3.66E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.17E+2	5.50E-2	5.98E+1	1.77E+2	9.89E-2	4.71E+0	1.32E-2	-3.04E+1	1.52E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.17E+2	5.50E-2	5.98E+1	1.77E+2	9.89E-2	4.71E+0	1.32E-2	-3.04E+1	1.52E+2
PENRE	MJ	8.66E+2	4.07E+0	3.59E+0	8.74E+2	7.32E+0	7.09E+1	3.91E-1	-4.34E+2	5.19E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.66E+2	4.07E+0	3.59E+0	8.74E+2	7.32E+0	7.09E+1	3.91E-1	-4.34E+2	5.19E+2
PET	MJ	9.84E+2	4.13E+0	6.34E+1	1.05E+3	7.42E+0	7.56E+1	4.04E-1	-4.64E+2	6.71E+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	5.53E-1	4.34E-4	3.63E-3	5.57E-1	7.80E-4	7.10E-2	4.52E-4	-2.44E-1	3.85E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.44E-4	9.81E-6	6.80E-10	6.54E-4	1.76E-5	1.08E-4	4.43E-7	-3.40E-4	4.40E-4
NHWD	kg	3.09E+0	2.38E-1	2.62E-3	3.33E+0	4.27E-1	2.57E+0	1.73E+0	-1.27E+0	6.78E+0
RWD	kg	1.57E-3	2.61E-5	2.73E-10	1.60E-3	4.69E-5	2.51E-4	2.41E-6	-6.73E-4	1.23E-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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