Environmental Profile

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

Ecochain v3.5.80

Ecochain

Product:	3072524 - PVCU Bend 30° BR 200 SN4 FIN
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

wavin
An Orbia business.

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

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

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

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.61E+0	6.25E-2	1.45E-4	2.67E+0	3.62E-2	3.05E+0	1.20E-2	-1.72E+0	4.04E+0
GWP-f	kg CO2 eq	3.97E+0	6.25E-2	1.46E-4	4.03E+0	3.61E-2	1.46E+0	1.20E-2	-2.15E+0	3.39E+0
GWP-b	kg CO2 eq	-1.37E+0	3.79E-5	-1.54E-6	-1.37E+0	2.19E-5	1.59E+0	1.49E-5	4.30E-1	6.53E-1
GWP-luluc	kg CO2 eq	6.04E-3	2.21E-5	1.49E-7	6.06E-3	1.28E-5	4.60E-4	3.09E-7	-4.72E-3	1.81E-3
ODP	kg CFC11 eq	1.66E-6	1.44E-8	8.26E-12	1.67E-6	8.33E-9	1.30E-7	4.39E-10	-8.36E-7	9.73E-7
AP	mol H+ eq	1.94E-2	3.56E-4	1.47E-6	1.97E-2	2.06E-4	2.37E-3	1.07E-5	-9.20E-3	1.31E-2
EP-fw	kg P eq	1.84E-4	5.14E-7	8.24E-9	1.84E-4	2.97E-7	1.55E-5	1.40E-8	-1.03E-4	9.68E-5
EP-m	kg N eq	3.80E-3	1.27E-4	1.55E-7	3.93E-3	7.37E-5	6.17E-4	7.30E-6	-1.86E-3	2.77E-3
EP-T	mol N eq	4.08E-2	1.40E-3	1.85E-6	4.22E-2	8.12E-4	6.79E-3	4.26E-5	-2.06E-2	2.92E-2
POCP	kg NMVOC eq	1.34E-2	4.01E-4	6.28E-7	1.38E-2	2.32E-4	2.02E-3	1.47E-5	-6.66E-3	9.44E-3
ADP-mm	kg Sb eq	2.76E-3	1.62E-6	1.97E-8	2.76E-3	9.35E-7	9.18E-6	1.07E-8	-3.94E-5	2.73E-3
ADP-f	MJ	9.31E+1	9.59E-1	1.36E-3	9.41E+1	5.55E-1	6.13E+0	3.20E-2	-4.77E+1	5.31E+1
WDP	m3 depriv.	5.13E+0	2.94E-3	5.22E-5	5.13E+0	1.70E-3	2.30E-1	2.04E-4	-2.87E+0	2.49E+0
PM	disease inc.	1.73E-7	5.64E-9	9.08E-12	1.78E-7	3.26E-9	2.94E-8	2.21E-10	-1.04E-7	1.08E-7
IR	kBq U-235 eq	2.11E-1	4.19E-3	1.02E-6	2.15E-1	2.43E-3	2.20E-2	1.48E-4	-1.08E-1	1.32E-1
ETP-fw	CTUe	1.41E+2	7.79E-1	1.21E-2	1.41E+2	4.51E-1	4.51E+1	4.90E-1	-6.01E+1	1.27E+2
HTP-c	CTUh	3.49E-9	2.77E-11	6.17E-13	3.52E-9	1.60E-11	7.27E-10	8.83E-13	-1.57E-9	2.69E-9
HTP-nc	CTUh	9.55E-8	9.29E-10	1.57E-11	9.64E-8	5.37E-10	1.63E-8	9.46E-11	-4.08E-8	7.25E-8
SQP	Pt	1.47E+2	8.21E-1	2.24E-3	1.48E+2	4.75E-1	3.74E+0	8.21E-2	-1.81E+2	-2.90E+1
Resource use	**Unit**	**A1**	**A2**	**A3**	**A1-A3**	**C2**	**C3**	**C4**	**D**	**Total**
PERE	MJ	3.25E+1	1.38E-2	2.40E-2	3.26E+1	7.96E-3	4.25E-1	1.21E-3	-3.06E+1	2.36E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.25E+1	1.38E-2	2.40E-2	3.26E+1	7.96E-3	4.25E-1	1.21E-3	-3.06E+1	2.36E+0
PENRE	MJ	9.99E+1	1.02E+0	1.44E-3	1.01E+2	5.89E-1	6.52E+0	3.40E-2	-5.14E+1	5.67E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.99E+1	1.02E+0	1.44E-3	1.01E+2	5.89E-1	6.52E+0	3.40E-2	-5.14E+1	5.67E+1
PET	MJ	1.32E+2	1.03E+0	2.55E-2	1.33E+2	5.97E-1	6.94E+0	3.52E-2	-8.20E+1	5.90E+1
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	6.62E-2	1.09E-4	1.46E-6	6.63E-2	6.28E-5	6.60E-3	3.93E-5	-4.11E-2	3.19E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.08E-4	2.45E-6	2.73E-13	4.11E-4	1.42E-6	1.06E-5	3.90E-8	-4.79E-5	3.75E-4
NHWD	kg	4.62E-1	5.95E-2	1.05E-6	5.22E-1	3.44E-2	2.40E-1	1.41E-1	-2.07E-1	7.30E-1
RWD	kg	1.99E-4	6.52E-6	1.10E-13	2.05E-4	3.77E-6	2.43E-5	2.09E-7	-1.01E-4	1.33E-4
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