Environmental Profile

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

Ecochain v3.5.80

Product:	3072529 - PVCU Double Coupler BR 315 SN4n 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

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	5.98E+0	9.35E-2	1.45E-4	6.07E+0	7.22E-2	4.86E+0	2.66E-2	-3.44E+0	7.59E+0
GWP-f	kg CO2 eq	7.33E+0	9.34E-2	1.46E-4	7.42E+0	7.21E-2	3.31E+0	2.65E-2	-3.75E+0	7.08E+0
GWP-b	kg CO2 eq	-1.36E+0	5.67E-5	-1.54E-6	-1.36E+0	4.38E-5	1.54E+0	3.20E-5	3.17E-1	5.02E-1
GWP-luluc	kg CO2 eq	8.38E-3	3.31E-5	1.49E-7	8.42E-3	2.55E-5	8.42E-4	6.58E-7	-4.86E-3	4.42E-3
ODP	kg CFC11 eq	3.22E-6	2.15E-8	8.26E-12	3.24E-6	1.66E-8	2.35E-7	9.32E-10	-1.52E-6	1.98E-6
AP	mol H+ eq	3.65E-2	5.32E-4	1.47E-6	3.71E-2	4.11E-4	4.21E-3	2.28E-5	-1.40E-2	2.77E-2
EP-fw	kg P eq	3.24E-4	7.69E-7	8.24E-9	3.25E-4	5.94E-7	2.83E-5	2.98E-8	-1.43E-4	2.11E-4
EP-m	kg N eq	6.51E-3	1.90E-4	1.55E-7	6.70E-3	1.47E-4	1.07E-3	1.91E-5	-2.69E-3	5.25E-3
EP-T	mol N eq	7.12E-2	2.10E-3	1.85E-6	7.33E-2	1.62E-3	1.18E-2	9.07E-5	-2.94E-2	5.74E-2
POCP	kg NMVOC eq	2.49E-2	6.00E-4	6.28E-7	2.55E-2	4.63E-4	3.49E-3	3.15E-5	-9.88E-3	1.97E-2
ADP-mm	kg Sb eq	5.65E-3	2.42E-6	1.97E-8	5.65E-3	1.87E-6	1.60E-5	2.27E-8	-8.06E-5	5.59E-3
ADP-f	MJ	1.80E+2	1.43E+0	1.36E-3	1.82E+2	1.11E+0	1.09E+1	6.82E-2	-8.46E+1	1.09E+2
WDP	m3 depriv.	9.62E+0	4.40E-3	5.22E-5	9.63E+0	3.40E-3	4.34E-1	4.22E-4	-4.61E+0	5.46E+0
PM	disease inc.	3.16E-7	8.43E-9	9.08E-12	3.24E-7	6.51E-9	5.08E-8	4.69E-10	-1.28E-7	2.55E-7
IR	kBq U-235 eq	4.41E-1	6.27E-3	1.02E-6	4.47E-1	4.84E-3	3.88E-2	3.16E-4	-1.67E-1	3.25E-1
ETP-fw	CTUe	2.15E+2	1.16E+0	1.21E-2	2.16E+2	8.99E-1	8.42E+1	9.25E-1	-7.11E+1	2.31E+2
HTP-c	CTUh	6.19E-9	4.14E-11	6.17E-13	6.23E-9	3.20E-11	1.23E-9	1.87E-12	-2.23E-9	5.27E-9
HTP-nc	CTUh	1.78E-7	1.39E-9	1.57E-11	1.79E-7	1.07E-9	2.97E-8	1.83E-10	-6.30E-8	1.47E-7
SQP	Pt	1.58E+2	1.23E+0	2.24E-3	1.59E+2	9.47E-1	6.67E+0	1.74E-1	-1.66E+2	9.37E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.37E+1	2.06E-2	2.40E-2	4.38E+1	1.59E-2	7.78E-1	2.65E-3	-2.86E+1	1.60E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.37E+1	2.06E-2	2.40E-2	4.38E+1	1.59E-2	7.78E-1	2.65E-3	-2.86E+1	1.60E+1
PENRE	MJ	1.93E+2	1.52E+0	1.44E-3	1.95E+2	1.18E+0	1.17E+1	7.23E-2	-9.13E+1	1.16E+2
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.93E+2	1.52E+0	1.44E-3	1.95E+2	1.18E+0	1.17E+1	7.23E-2	-9.13E+1	1.16E+2
PET	MJ	2.37E+2	1.54E+0	2.55E-2	2.39E+2	1.19E+0	1.24E+1	7.50E-2	-1.20E+2	1.32E+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	1.25E-1	1.62E-4	1.46E-6	1.25E-1	1.25E-4	1.33E-2	8.37E-5	-5.75E-2	8.11E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.72E-4	3.67E-6	2.73E-13	7.76E-4	2.83E-6	1.89E-5	8.27E-8	-8.01E-5	7.18E-4
NHWD	kg	7.84E-1	8.89E-2	1.05E-6	8.73E-1	6.86E-2	4.28E-1	2.99E-1	-3.02E-1	1.37E+0
RWD	kg	4.49E-4	9.75E-6	1.10E-13	4.58E-4	7.53E-6	4.20E-5	4.44E-7	-1.54E-4	3.54E-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

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