Environmental Profile

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

Ecochain v3.5.80

Product:	3072530 - PVCU Repair Coupler BR 250 SN4nFIN
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	3.53E+0	6.52E-2	1.45E-4	3.60E+0	4.34E-2	3.27E+0	1.62E-2	-2.10E+0	4.82E+0
GWP-f	kg CO2 eq	4.57E+0	6.52E-2	1.46E-4	4.64E+0	4.34E-2	2.09E+0	1.62E-2	-2.34E+0	4.45E+0
GWP-b	kg CO2 eq	-1.04E+0	3.96E-5	-1.54E-6	-1.04E+0	2.63E-5	1.18E+0	1.95E-5	2.40E-1	3.72E-1
GWP-luluc	kg CO2 eq	5.49E-3	2.31E-5	1.49E-7	5.52E-3	1.54E-5	5.04E-4	4.00E-7	-3.36E-3	2.67E-3
ODP	kg CFC11 eq	1.95E-6	1.50E-8	8.26E-12	1.97E-6	1.00E-8	1.41E-7	5.66E-10	-9.17E-7	1.20E-6
AP	mol H+ eq	2.29E-2	3.71E-4	1.47E-6	2.33E-2	2.47E-4	2.56E-3	1.38E-5	-8.83E-3	1.73E-2
EP-fw	kg P eq	2.02E-4	5.36E-7	8.24E-9	2.02E-4	3.57E-7	1.69E-5	1.81E-8	-9.12E-5	1.28E-4
EP-m	kg N eq	4.13E-3	1.33E-4	1.55E-7	4.26E-3	8.84E-5	6.58E-4	1.19E-5	-1.73E-3	3.29E-3
EP-T	mol N eq	4.51E-2	1.46E-3	1.85E-6	4.66E-2	9.74E-4	7.25E-3	5.51E-5	-1.90E-2	3.59E-2
POCP	kg NMVOC eq	1.58E-2	4.18E-4	6.28E-7	1.63E-2	2.79E-4	2.14E-3	1.92E-5	-6.33E-3	1.24E-2
ADP-mm	kg Sb eq	3.39E-3	1.69E-6	1.97E-8	3.39E-3	1.12E-6	9.68E-6	1.38E-8	-5.01E-5	3.35E-3
ADP-f	MJ	1.12E+2	1.00E+0	1.36E-3	1.13E+2	6.66E-1	6.60E+0	4.14E-2	-5.22E+1	6.82E+1
WDP	m3 depriv.	5.83E+0	3.07E-3	5.22E-5	5.83E+0	2.04E-3	2.60E-1	2.56E-4	-2.83E+0	3.27E+0
PM	disease inc.	2.05E-7	5.88E-9	9.08E-12	2.11E-7	3.92E-9	3.08E-8	2.84E-10	-8.52E-8	1.60E-7
IR	kBq U-235 eq	2.76E-1	4.37E-3	1.02E-6	2.80E-1	2.91E-3	2.34E-2	1.92E-4	-1.04E-1	2.02E-1
ETP-fw	CTUe	1.38E+2	8.12E-1	1.21E-2	1.38E+2	5.41E-1	5.03E+1	5.52E-1	-4.72E+1	1.43E+2
HTP-c	CTUh	3.86E-9	2.89E-11	6.17E-13	3.89E-9	1.92E-11	7.48E-10	1.14E-12	-1.45E-9	3.22E-9
HTP-nc	CTUh	1.08E-7	9.68E-10	1.57E-11	1.09E-7	6.45E-10	1.78E-8	1.09E-10	-3.93E-8	8.87E-8
SQP	Pt	1.16E+2	8.56E-1	2.24E-3	1.17E+2	5.70E-1	4.02E+0	1.06E-1	-1.24E+2	-2.68E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.93E+1	1.44E-2	2.40E-2	2.93E+1	9.55E-3	4.65E-1	1.61E-3	-2.12E+1	8.62E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.93E+1	1.44E-2	2.40E-2	2.93E+1	9.55E-3	4.65E-1	1.61E-3	-2.12E+1	8.62E+0
PENRE	MJ	1.20E+2	1.06E+0	1.44E-3	1.21E+2	7.07E-1	7.02E+0	4.39E-2	-5.63E+1	7.26E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.20E+2	1.06E+0	1.44E-3	1.21E+2	7.07E-1	7.02E+0	4.39E-2	-5.63E+1	7.26E+1
PET	MJ	1.49E+2	1.08E+0	2.55E-2	1.50E+2	7.17E-1	7.49E+0	4.55E-2	-7.75E+1	8.12E+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	7.73E-2	1.13E-4	1.46E-6	7.74E-2	7.54E-5	8.05E-3	5.08E-5	-3.65E-2	4.91E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.62E-4	2.56E-6	2.73E-13	4.65E-4	1.70E-6	1.15E-5	5.02E-8	-5.05E-5	4.27E-4
NHWD	kg	4.98E-1	6.20E-2	1.05E-6	5.60E-1	4.13E-2	2.61E-1	1.82E-1	-1.93E-1	8.50E-1
RWD	kg	2.84E-4	6.80E-6	1.10E-13	2.91E-4	4.53E-6	2.55E-5	2.70E-7	-9.72E-5	2.24E-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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