Environmental Profile

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

Ecochain v3.5.80

Product:	3072517 - PVCU Repair Coupler 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

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	4.64E-2	1.45E-4	2.65E+0	3.30E-2	2.13E+0	1.15E-2	-1.57E+0	3.26E+0
GWP-f	kg CO2 eq	3.28E+0	4.64E-2	1.46E-4	3.33E+0	3.30E-2	1.36E+0	1.15E-2	-1.72E+0	3.01E+0
GWP-b	kg CO2 eq	-6.78E-1	2.82E-5	-1.54E-6	-6.78E-1	2.00E-5	7.72E-1	1.41E-5	1.59E-1	2.54E-1
GWP-luluc	kg CO2 eq	3.87E-3	1.64E-5	1.49E-7	3.88E-3	1.17E-5	4.01E-4	2.90E-7	-2.38E-3	1.92E-3
ODP	kg CFC11 eq	1.47E-6	1.07E-8	8.26E-12	1.48E-6	7.60E-9	1.12E-7	4.12E-10	-7.17E-7	8.85E-7
AP	mol H+ eq	1.61E-2	2.64E-4	1.47E-6	1.63E-2	1.88E-4	1.98E-3	1.00E-5	-6.66E-3	1.19E-2
EP-fw	kg P eq	1.47E-4	3.81E-7	8.24E-9	1.48E-4	2.72E-7	1.34E-5	1.31E-8	-6.88E-5	9.26E-5
EP-m	kg N eq	2.91E-3	9.45E-5	1.55E-7	3.01E-3	6.73E-5	5.02E-4	7.58E-6	-1.28E-3	2.30E-3
EP-T	mol N eq	3.17E-2	1.04E-3	1.85E-6	3.27E-2	7.41E-4	5.53E-3	4.00E-5	-1.40E-2	2.51E-2
POCP	kg NMVOC eq	1.09E-2	2.98E-4	6.28E-7	1.12E-2	2.12E-4	1.64E-3	1.39E-5	-4.68E-3	8.36E-3
ADP-mm	kg Sb eq	2.48E-3	1.20E-6	1.97E-8	2.48E-3	8.54E-7	7.62E-6	1.00E-8	-3.49E-5	2.46E-3
ADP-f	MJ	8.00E+1	7.12E-1	1.36E-3	8.07E+1	5.07E-1	5.19E+0	3.01E-2	-3.92E+1	4.72E+1
WDP	m3 depriv.	4.47E+0	2.18E-3	5.22E-5	4.47E+0	1.55E-3	2.04E-1	1.88E-4	-2.20E+0	2.47E+0
PM	disease inc.	1.34E-7	4.18E-9	9.08E-12	1.38E-7	2.98E-9	2.41E-8	2.07E-10	-6.15E-8	1.04E-7
IR	kBq U-235 eq	1.87E-1	3.11E-3	1.02E-6	1.90E-1	2.21E-3	1.84E-2	1.39E-4	-7.90E-2	1.32E-1
ETP-fw	CTUe	9.70E+1	5.78E-1	1.21E-2	9.76E+1	4.11E-1	3.98E+1	4.37E-1	-3.44E+1	1.04E+2
HTP-c	CTUh	2.80E-9	2.06E-11	6.17E-13	2.82E-9	1.46E-11	5.93E-10	8.28E-13	-1.07E-9	2.35E-9
HTP-nc	CTUh	8.07E-8	6.89E-10	1.57E-11	8.14E-8	4.90E-10	1.40E-8	8.52E-11	-3.01E-8	6.58E-8
SQP	Pt	7.69E+1	6.09E-1	2.24E-3	7.75E+1	4.33E-1	3.17E+0	7.71E-2	-8.28E+1	-1.63E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.02E+1	1.02E-2	2.40E-2	2.03E+1	7.27E-3	3.69E-1	1.15E-3	-1.42E+1	6.42E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.02E+1	1.02E-2	2.40E-2	2.03E+1	7.27E-3	3.69E-1	1.15E-3	-1.42E+1	6.42E+0
PENRE	MJ	8.57E+1	7.56E-1	1.44E-3	8.65E+1	5.38E-1	5.52E+0	3.19E-2	-4.22E+1	5.03E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.57E+1	7.56E-1	1.44E-3	8.65E+1	5.38E-1	5.52E+0	3.19E-2	-4.22E+1	5.03E+1
PET	MJ	1.06E+2	7.66E-1	2.55E-2	1.07E+2	5.45E-1	5.89E+0	3.31E-2	-5.65E+1	5.67E+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	5.61E-2	8.05E-5	1.46E-6	5.62E-2	5.73E-5	5.99E-3	3.69E-5	-2.75E-2	3.47E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.51E-4	1.82E-6	2.73E-13	3.53E-4	1.30E-6	8.82E-6	3.66E-8	-3.69E-5	3.26E-4
NHWD	kg	3.54E-1	4.41E-2	1.05E-6	3.98E-1	3.14E-2	2.01E-1	1.32E-1	-1.45E-1	6.18E-1
RWD	kg	1.82E-4	4.84E-6	1.10E-13	1.87E-4	3.44E-6	2.00E-5	1.96E-7	-7.27E-5	1.38E-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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