Environmental Profile

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

Ecochain v3.5.64

Product:	3072742 - SafeTech RCn PotW Pp 125x7.4 L=100 BC
Unit:	1 piece
Manufacturer:	Wavin - DE - Westeregeln - verified
Address:	Borrweg 10 39448 Börde-Hakel Germany
Contact:	https://www.wavin.com/en-en

Wavin SafeTech RC n is a co-extruded PE-100 RC two-layer pipe with protective properties according to PAS 1075. The outer signal layer is about 10% of the standard wall thickness and is colored according to the medium - blue for drinking water, orange for gas and green for waste water.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	11-08-2022
End of validity:	11-08-2027
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 - DE - Westeregeln - verified (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 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF 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	5.61E+2	2.63E+1	1.02E+1	5.97E+2	7.35E+0	2.39E+2	4.07E+0	-3.68E+2	4.79E+2
GWP-f	kg CO2 eq	5.58E+2	2.63E+1	8.52E+0	5.93E+2	7.34E+0	2.39E+2	4.07E+0	-3.67E+2	4.76E+2
GWP-b	kg CO2 eq	2.74E+0	1.10E-2	7.96E-1	3.55E+0	4.46E-3	-2.94E-1	3.06E-3	-1.39E+0	1.87E+0
GWP-luluc	kg CO2 eq	1.69E-1	1.00E-2	8.90E-1	1.07E+0	2.60E-3	4.13E-2	5.84E-5	-8.35E-2	1.03E+0
ODP	kg CFC11 eq	2.89E-5	5.77E-6	1.19E-6	3.59E-5	1.69E-6	5.37E-6	8.68E-8	-1.76E-5	2.54E-5
AP	mol H+ eq	2.09E+0	1.95E-1	4.92E-2	2.33E+0	4.18E-2	2.26E-1	2.07E-3	-1.02E+0	1.58E+0
EP-fw	kg P eq	9.29E-3	2.55E-4	1.90E-4	9.73E-3	6.04E-5	1.19E-3	2.69E-6	-4.57E-3	6.41E-3
EP-m	kg N eq	3.49E-1	6.34E-2	1.07E-2	4.23E-1	1.50E-2	6.57E-2	1.47E-3	-1.86E-1	3.19E-1
EP-T	mol N eq	3.89E+0	7.00E-1	1.06E-1	4.70E+0	1.65E-1	7.23E-1	8.41E-3	-2.07E+0	3.53E+0
POCP	kg NMVOC eq	1.86E+0	1.96E-1	3.06E-2	2.08E+0	4.72E-2	2.28E-1	3.30E-3	-9.64E-1	1.40E+0
ADP-mm	kg Sb eq	5.44E-3	6.37E-4	2.28E-4	6.30E-3	1.90E-4	8.93E-4	2.08E-6	-2.37E-3	5.01E-3
ADP-f	MJ	1.97E+4	3.93E+2	1.02E+2	2.02E+4	1.13E+2	7.16E+2	6.34E+0	-1.10E+4	1.01E+4
WDP	m3 depriv.	4.30E+2	1.36E+0	5.22E+1	4.83E+2	3.46E-1	1.41E+1	2.90E-2	-2.14E+2	2.84E+2
PM	disease inc.	1.95E-5	2.27E-6	4.65E-7	2.23E-5	6.63E-7	3.71E-6	4.35E-8	-8.04E-6	1.86E-5
IR	kBq U-235 eq	1.67E+1	1.65E+0	2.92E-1	1.86E+1	4.93E-1	2.16E+0	2.95E-2	-6.65E+0	1.46E+1
ETP-fw	CTUe	3.60E+3	3.45E+2	2.34E+2	4.17E+3	9.15E+1	8.12E+2	5.59E+0	-1.60E+3	3.48E+3
HTP-c	CTUh	1.48E-7	1.16E-8	8.65E-9	1.69E-7	3.26E-9	9.63E-8	1.54E-10	-7.61E-8	1.92E-7
HTP-nc	CTUh	3.52E-6	3.73E-7	2.18E-7	4.11E-6	1.09E-7	1.22E-6	3.55E-9	-1.70E-6	3.74E-6
SQP	Pt	7.52E+2	3.26E+2	1.06E+1	1.09E+3	9.64E+1	5.72E+2	1.63E+1	-3.49E+2	1.42E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.21E+2	4.79E+0	4.80E+2	8.06E+2	1.62E+0	3.53E+1	2.51E-1	-1.59E+2	6.84E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.21E+2	4.79E+0	4.80E+2	8.06E+2	1.62E+0	3.53E+1	2.51E-1	-1.59E+2	6.84E+2
PENRE	MJ	2.12E+4	4.17E+2	1.09E+2	2.17E+4	1.20E+2	7.62E+2	6.72E+0	-1.19E+4	1.07E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.12E+4	4.17E+2	1.09E+2	2.17E+4	1.20E+2	7.62E+2	6.72E+0	-1.19E+4	1.07E+4
PET	MJ	2.15E+4	4.22E+2	5.88E+2	2.25E+4	1.21E+2	7.98E+2	6.98E+0	-1.20E+4	1.14E+4
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	6.53E+0	4.63E-2	1.24E+0	7.81E+0	1.28E-2	4.14E-1	7.83E-3	-3.27E+0	4.98E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.67E-3	9.62E-4	1.79E-4	3.81E-3	2.88E-4	1.17E-3	7.61E-6	-3.24E-3	2.04E-3
NHWD	kg	1.84E+1	2.37E+1	2.22E-1	4.23E+1	6.99E+0	3.52E+1	2.79E+1	-8.97E+0	1.03E+2
RWD	kg	1.79E-2	2.59E-3	4.28E-4	2.09E-2	7.67E-4	2.73E-3	4.15E-5	-6.17E-3	1.83E-2
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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