

Environmental Profile

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

Ecochain v3.5.64



Product: 3053513 - SafeTech RCn Gas Pp 110x10 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

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



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.

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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage												Benefits and loads beyond the system boundaries				
A4 Transport gate to site A5 Assembly / Construction installation process												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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.38E+2	2.82E+1	1.18E+1	6.78E+2	8.37E+0	2.72E+2	4.63E+0	-4.20E+2	5.44E+2
GWP-f	kg CO2 eq	6.35E+2	2.81E+1	9.86E+0	6.73E+2	8.36E+0	2.72E+2	4.64E+0	-4.18E+2	5.41E+2
GWP-b	kg CO2 eq	3.13E+0	1.18E-2	9.36E-1	4.07E+0	5.08E-3	-3.35E-1	3.48E-3	-1.59E+0	2.16E+0
GWP-luluc	kg CO2 eq	1.94E-1	1.08E-2	1.05E+0	1.25E+0	2.96E-3	4.70E-2	6.66E-5	-9.51E-2	1.21E+0
ODP	kg CFC11 eq	3.29E-5	6.17E-6	1.36E-6	4.05E-5	1.93E-6	6.12E-6	9.89E-8	-2.00E-5	2.86E-5
AP	mol H+ eq	2.38E+0	2.11E-1	5.71E-2	2.65E+0	4.77E-2	2.57E-1	2.36E-3	-1.16E+0	1.80E+0
EP-fw	kg P eq	1.06E-2	2.73E-4	2.20E-4	1.11E-2	6.88E-5	1.36E-3	3.07E-6	-5.21E-3	7.31E-3
EP-m	kg N eq	3.97E-1	6.85E-2	1.23E-2	4.78E-1	1.71E-2	7.48E-2	1.67E-3	-2.12E-1	3.60E-1
EP-T	mol N eq	4.44E+0	7.56E-1	1.23E-1	5.32E+0	1.88E-1	8.23E-1	9.58E-3	-2.35E+0	3.99E+0
POCP	kg NMVOC eq	2.12E+0	2.11E-1	3.53E-2	2.36E+0	5.37E-2	2.60E-1	3.76E-3	-1.10E+0	1.58E+0
ADP-mm	kg Sb eq	6.32E-3	6.79E-4	2.68E-4	7.26E-3	2.16E-4	1.02E-3	2.37E-6	-2.70E-3	5.80E-3
ADP-f	MJ	2.25E+4	4.20E+2	1.17E+2	2.30E+4	1.28E+2	8.15E+2	7.22E+0	-1.25E+4	1.14E+4
WDP	m3 depriv.	4.90E+2	1.45E+0	6.13E+1	5.53E+2	3.94E-1	1.60E+1	3.35E-2	-2.44E+2	3.25E+2
PM	disease inc.	2.23E-5	2.42E-6	5.36E-7	2.52E-5	7.55E-7	4.23E-6	4.96E-8	-9.16E-6	2.11E-5
IR	kBq U-235 eq	1.90E+1	1.76E+0	3.34E-1	2.11E+1	5.61E-1	2.46E+0	3.36E-2	-7.57E+0	1.65E+1
ETP-fw	CTUe	4.12E+3	3.69E+2	2.73E+2	4.76E+3	1.04E+2	9.25E+2	6.37E+0	-1.82E+3	3.97E+3
HTP-c	CTUh	1.70E-7	1.24E-8	1.01E-8	1.92E-7	3.71E-9	1.10E-7	1.76E-10	-8.66E-8	2.19E-7
HTP-nc	CTUh	4.02E-6	3.99E-7	2.55E-7	4.68E-6	1.24E-7	1.39E-6	4.05E-9	-1.94E-6	4.25E-6
SQP	Pt	8.59E+2	3.48E+2	1.21E+1	1.22E+3	1.10E+2	6.51E+2	1.85E+1	-3.98E+2	1.60E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.66E+2	5.12E+0	5.65E+2	9.36E+2	1.84E+0	4.02E+1	2.86E-1	-1.81E+2	7.97E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.66E+2	5.12E+0	5.65E+2	9.36E+2	1.84E+0	4.02E+1	2.86E-1	-1.81E+2	7.97E+2
PENRE	MJ	2.41E+4	4.46E+2	1.25E+2	2.47E+4	1.36E+2	8.68E+2	7.66E+0	-1.35E+4	1.21E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.41E+4	4.46E+2	1.25E+2	2.47E+4	1.36E+2	8.68E+2	7.66E+0	-1.35E+4	1.21E+4
PET	MJ	2.45E+4	4.51E+2	6.90E+2	2.56E+4	1.38E+2	9.09E+2	7.95E+0	-1.37E+4	1.29E+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	7.45E+0	4.95E-2	1.46E+0	8.95E+0	1.45E-2	4.71E-1	8.92E-3	-3.72E+0	5.72E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.06E-3	1.03E-3	2.04E-4	4.29E-3	3.28E-4	1.33E-3	8.67E-6	-3.68E-3	2.27E-3
NHWD	kg	2.11E+1	2.52E+1	2.53E-1	4.66E+1	7.96E+0	4.01E+1	3.18E+1	-1.02E+1	1.16E+2
RWD	kg	2.03E-2	2.77E-3	4.88E-4	2.36E-2	8.73E-4	3.11E-3	4.72E-5	-7.03E-3	2.06E-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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