

Environmental Profile

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

Ecochain v3.5.64



Product: 3015416 - SafeTech RCn WWP Pp 110x10 L=100
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	6.39E+2	1.74E+1	1.17E+1	6.68E+2	8.38E+0	2.72E+2	4.64E+0	-4.20E+2	5.33E+2
GWP-f	kg CO2 eq	6.36E+2	1.74E+1	9.77E+0	6.63E+2	8.37E+0	2.73E+2	4.64E+0	-4.18E+2	5.30E+2
GWP-b	kg CO2 eq	3.13E+0	7.37E-3	9.19E-1	4.05E+0	5.08E-3	-3.35E-1	3.48E-3	-1.59E+0	2.14E+0
GWP-luluc	kg CO2 eq	1.94E-1	6.64E-3	1.03E+0	1.23E+0	2.96E-3	4.70E-2	6.67E-5	-9.52E-2	1.18E+0
ODP	kg CFC11 eq	3.30E-5	3.83E-6	1.35E-6	3.82E-5	1.93E-6	6.12E-6	9.90E-8	-2.01E-5	2.63E-5
AP	mol H+ eq	2.38E+0	1.28E-1	5.65E-2	2.57E+0	4.77E-2	2.57E-1	2.36E-3	-1.16E+0	1.71E+0
EP-fw	kg P eq	1.06E-2	1.70E-4	2.18E-4	1.10E-2	6.89E-5	1.36E-3	3.07E-6	-5.21E-3	7.20E-3
EP-m	kg N eq	3.98E-1	4.17E-2	1.23E-2	4.51E-1	1.71E-2	7.48E-2	1.67E-3	-2.12E-1	3.33E-1
EP-T	mol N eq	4.44E+0	4.60E-1	1.22E-1	5.03E+0	1.88E-1	8.24E-1	9.59E-3	-2.36E+0	3.69E+0
POCP	kg NMVOC eq	2.12E+0	1.29E-1	3.51E-2	2.28E+0	5.37E-2	2.60E-1	3.76E-3	-1.10E+0	1.50E+0
ADP-mm	kg Sb eq	6.30E-3	4.23E-4	2.63E-4	6.98E-3	2.17E-4	1.02E-3	2.37E-6	-2.70E-3	5.52E-3
ADP-f	MJ	2.25E+4	2.61E+2	1.17E+2	2.29E+4	1.28E+2	8.16E+2	7.23E+0	-1.25E+4	1.13E+4
WDP	m3 depriv.	4.90E+2	9.04E-1	6.02E+1	5.51E+2	3.94E-1	1.60E+1	3.35E-2	-2.44E+2	3.24E+2
PM	disease inc.	2.23E-5	1.51E-6	5.32E-7	2.43E-5	7.56E-7	4.23E-6	4.96E-8	-9.16E-6	2.02E-5
IR	kBq U-235 eq	1.90E+1	1.09E+0	3.34E-1	2.04E+1	5.62E-1	2.46E+0	3.37E-2	-7.57E+0	1.59E+1
ETP-fw	CTUe	4.12E+3	2.29E+2	2.69E+2	4.62E+3	1.04E+2	9.26E+2	6.37E+0	-1.82E+3	3.83E+3
HTP-c	CTUh	1.70E-7	7.69E-9	9.95E-9	1.87E-7	3.71E-9	1.10E-7	1.76E-10	-8.67E-8	2.14E-7
HTP-nc	CTUh	4.02E-6	2.48E-7	2.51E-7	4.52E-6	1.24E-7	1.39E-6	4.05E-9	-1.94E-6	4.10E-6
SQP	Pt	8.60E+2	2.17E+2	1.20E+1	1.09E+3	1.10E+2	6.52E+2	1.85E+1	-3.98E+2	1.47E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.67E+2	3.18E+0	5.54E+2	9.24E+2	1.84E+0	4.03E+1	2.86E-1	-1.82E+2	7.84E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.67E+2	3.18E+0	5.54E+2	9.24E+2	1.84E+0	4.03E+1	2.86E-1	-1.82E+2	7.84E+2
PENRE	MJ	2.41E+4	2.77E+2	1.25E+2	2.45E+4	1.36E+2	8.69E+2	7.67E+0	-1.35E+4	1.20E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.41E+4	2.77E+2	1.25E+2	2.45E+4	1.36E+2	8.69E+2	7.67E+0	-1.35E+4	1.20E+4
PET	MJ	2.45E+4	2.80E+2	6.78E+2	2.54E+4	1.38E+2	9.09E+2	7.95E+0	-1.37E+4	1.28E+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	3.08E-2	1.43E+0	8.91E+0	1.45E-2	4.71E-1	8.93E-3	-3.73E+0	5.68E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.06E-3	6.40E-4	2.04E-4	3.90E-3	3.29E-4	1.33E-3	8.68E-6	-3.69E-3	1.88E-3
NHWD	kg	2.11E+1	1.58E+1	2.53E-1	3.71E+1	7.96E+0	4.01E+1	3.18E+1	-1.02E+1	1.07E+2
RWD	kg	2.04E-2	1.72E-3	4.88E-4	2.26E-2	8.74E-4	3.11E-3	4.72E-5	-7.03E-3	1.96E-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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