

Environmental Profile

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

Ecochain v3.5.64



Product: 3015169 - SafeTech RCn WWP Pp 110x10 L=12
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]

Statement of Confidentiality

This document and supporting material contain confidential and proprietary business information of Wavin - DE - Westeregeln - verified . These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - DE - Westeregeln - verified .

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	7.67E+1	2.09E+0	1.42E+0	8.02E+1	1.01E+0	3.27E+1	5.56E-1	-5.04E+1	6.41E+1
GWP-f	kg CO2 eq	7.63E+1	2.09E+0	1.18E+0	7.96E+1	1.00E+0	3.27E+1	5.57E-1	-5.02E+1	6.37E+1
GWP-b	kg CO2 eq	3.73E-1	8.85E-4	1.12E-1	4.86E-1	6.10E-4	-3.81E-2	4.18E-4	-1.90E-1	2.59E-1
GWP-luluc	kg CO2 eq	2.32E-2	7.97E-4	1.25E-1	1.49E-1	3.56E-4	5.64E-3	8.00E-6	-1.14E-2	1.44E-1
ODP	kg CFC11 eq	3.96E-6	4.59E-7	1.63E-7	4.59E-6	2.31E-7	7.35E-7	1.19E-8	-2.41E-6	3.16E-6
AP	mol H+ eq	2.86E-1	1.53E-2	6.84E-3	3.08E-1	5.72E-3	3.09E-2	2.83E-4	-1.39E-1	2.06E-1
EP-fw	kg P eq	1.27E-3	2.04E-5	2.64E-5	1.32E-3	8.27E-6	1.63E-4	3.68E-7	-6.26E-4	8.66E-4
EP-m	kg N eq	4.78E-2	5.00E-3	1.48E-3	5.42E-2	2.05E-3	8.98E-3	2.00E-4	-2.54E-2	4.01E-2
EP-T	mol N eq	5.34E-1	5.52E-2	1.47E-2	6.04E-1	2.26E-2	9.89E-2	1.15E-3	-2.83E-1	4.43E-1
POCP	kg NMVOC eq	2.54E-1	1.55E-2	4.23E-3	2.74E-1	6.45E-3	3.13E-2	4.51E-4	-1.32E-1	1.80E-1
ADP-mm	kg Sb eq	7.56E-4	5.08E-5	3.21E-5	8.39E-4	2.60E-5	1.22E-4	2.84E-7	-3.25E-4	6.62E-4
ADP-f	MJ	2.70E+3	3.13E+1	1.41E+1	2.74E+3	1.54E+1	9.79E+1	8.67E-1	-1.51E+3	1.35E+3
WDP	m3 depriv.	5.88E+1	1.08E-1	7.33E+0	6.63E+1	4.73E-2	1.92E+0	4.02E-3	-2.93E+1	3.90E+1
PM	disease inc.	2.68E-6	1.81E-7	6.42E-8	2.92E-6	9.07E-8	5.08E-7	5.96E-9	-1.10E-6	2.43E-6
IR	kBq U-235 eq	2.28E+0	1.31E-1	4.01E-2	2.45E+0	6.74E-2	2.95E-1	4.04E-3	-9.09E-1	1.91E+0
ETP-fw	CTUe	4.94E+2	2.75E+1	3.27E+1	5.54E+2	1.25E+1	1.11E+2	7.64E-1	-2.19E+2	4.60E+2
HTP-c	CTUh	2.04E-8	9.23E-10	1.21E-9	2.25E-8	4.46E-10	1.32E-8	2.11E-11	-1.04E-8	2.58E-8
HTP-nc	CTUh	4.83E-7	2.98E-8	3.06E-8	5.43E-7	1.49E-8	1.67E-7	4.86E-10	-2.33E-7	4.92E-7
SQP	Pt	1.03E+2	2.60E+1	1.45E+0	1.31E+2	1.32E+1	7.82E+1	2.22E+0	-4.78E+1	1.77E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.40E+1	3.82E-1	6.75E+1	1.12E+2	2.21E-1	4.83E+0	3.43E-2	-2.18E+1	9.52E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.40E+1	3.82E-1	6.75E+1	1.12E+2	2.21E-1	4.83E+0	3.43E-2	-2.18E+1	9.52E+1
PENRE	MJ	2.89E+3	3.32E+1	1.50E+1	2.94E+3	1.64E+1	1.04E+2	9.20E-1	-1.62E+3	1.44E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.89E+3	3.32E+1	1.50E+1	2.94E+3	1.64E+1	1.04E+2	9.20E-1	-1.62E+3	1.44E+3
PET	MJ	2.94E+3	3.36E+1	8.26E+1	3.05E+3	1.66E+1	1.09E+2	9.54E-1	-1.65E+3	1.53E+3
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	8.95E-1	3.70E-3	1.74E-1	1.07E+0	1.74E-3	5.66E-2	1.07E-3	-4.47E-1	6.85E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.67E-4	7.68E-5	2.45E-5	4.68E-4	3.94E-5	1.59E-4	1.04E-6	-4.42E-4	2.26E-4
NHWD	kg	2.54E+0	1.89E+0	3.04E-2	4.46E+0	9.56E-1	4.81E+0	3.82E+0	-1.23E+0	1.28E+1
RWD	kg	2.45E-3	2.06E-4	5.85E-5	2.71E-3	1.05E-4	3.74E-4	5.67E-6	-8.44E-4	2.35E-3
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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777