

Environmental Profile

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

Ecochain v3.5.64



Product: 3015457 - SafeTech RCn WWP Pp 160x14.6 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]

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	1.35E+3	3.70E+1	2.71E+1	1.42E+3	1.78E+1	5.78E+2	9.83E+0	-8.90E+2	1.13E+3
GWP-f	kg CO2 eq	1.35E+3	3.69E+1	2.23E+1	1.41E+3	1.77E+1	5.78E+2	9.83E+0	-8.87E+2	1.13E+3
GWP-b	kg CO2 eq	6.62E+0	1.56E-2	2.26E+0	8.89E+0	1.08E-2	-7.10E-1	7.38E-3	-3.36E+0	4.84E+0
GWP-luluc	kg CO2 eq	4.11E-1	1.41E-2	2.54E+0	2.96E+0	6.28E-3	9.97E-2	1.41E-4	-2.02E-1	2.87E+0
ODP	kg CFC11 eq	7.01E-5	8.12E-6	2.96E-6	8.11E-5	4.09E-6	1.30E-5	2.10E-7	-4.25E-5	5.59E-5
AP	mol H+ eq	5.05E+0	2.71E-1	1.32E-1	5.45E+0	1.01E-1	5.45E-1	5.00E-3	-2.46E+0	3.65E+0
EP-fw	kg P eq	2.25E-2	3.60E-4	5.05E-4	2.34E-2	1.46E-4	2.88E-3	6.50E-6	-1.10E-2	1.53E-2
EP-m	kg N eq	8.43E-1	8.83E-2	2.74E-2	9.59E-1	3.62E-2	1.59E-1	3.54E-3	-4.49E-1	7.08E-1
EP-T	mol N eq	9.43E+0	9.75E-1	2.75E-1	1.07E+1	3.98E-1	1.75E+0	2.03E-2	-4.99E+0	7.85E+0
POCP	kg NMVOC eq	4.49E+0	2.73E-1	7.91E-2	4.84E+0	1.14E-1	5.52E-1	7.96E-3	-2.33E+0	3.19E+0
ADP-mm	kg Sb eq	1.33E-2	8.97E-4	6.46E-4	1.49E-2	4.59E-4	2.16E-3	5.02E-6	-5.73E-3	1.18E-2
ADP-f	MJ	4.77E+4	5.52E+2	2.63E+2	4.85E+4	2.72E+2	1.73E+3	1.53E+1	-2.66E+4	2.39E+4
WDP	m3 depriv.	1.04E+3	1.92E+0	1.47E+2	1.19E+3	8.36E-1	3.40E+1	7.10E-2	-5.17E+2	7.06E+2
PM	disease inc.	4.73E-5	3.19E-6	1.19E-6	5.17E-5	1.60E-6	8.97E-6	1.05E-7	-1.94E-5	4.29E-5
IR	kBq U-235 eq	4.03E+1	2.32E+0	7.17E-1	4.33E+1	1.19E+0	5.21E+0	7.14E-2	-1.61E+1	3.37E+1
ETP-fw	CTUe	8.74E+3	4.86E+2	6.38E+2	9.86E+3	2.21E+2	1.96E+3	1.35E+1	-3.86E+3	8.19E+3
HTP-c	CTUh	3.60E-7	1.63E-8	2.37E-8	4.00E-7	7.87E-9	2.33E-7	3.73E-10	-1.84E-7	4.57E-7
HTP-nc	CTUh	8.53E-6	5.26E-7	6.07E-7	9.66E-6	2.64E-7	2.94E-6	8.59E-9	-4.11E-6	8.77E-6
SQP	Pt	1.83E+3	4.60E+2	2.57E+1	2.31E+3	2.33E+2	1.38E+3	3.93E+1	-8.44E+2	3.12E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.78E+2	6.75E+0	1.37E+3	2.15E+3	3.91E+0	8.53E+1	6.06E-1	-3.85E+2	1.86E+3
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.78E+2	6.75E+0	1.37E+3	2.15E+3	3.91E+0	8.53E+1	6.06E-1	-3.85E+2	1.86E+3
PENRE	MJ	5.11E+4	5.87E+2	2.81E+2	5.20E+4	2.89E+2	1.84E+3	1.62E+1	-2.87E+4	2.54E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.11E+4	5.87E+2	2.81E+2	5.20E+4	2.89E+2	1.84E+3	1.62E+1	-2.87E+4	2.54E+4
PET	MJ	5.19E+4	5.93E+2	1.65E+3	5.41E+4	2.93E+2	1.93E+3	1.69E+1	-2.91E+4	2.73E+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	1.58E+1	6.53E-2	3.50E+0	1.94E+1	3.08E-2	9.99E-1	1.89E-2	-7.90E+0	1.25E+1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.49E-3	1.36E-3	4.33E-4	8.28E-3	6.96E-4	2.82E-3	1.84E-5	-7.82E-3	3.99E-3
NHWD	kg	4.48E+1	3.34E+1	5.42E-1	7.88E+1	1.69E+1	8.50E+1	6.75E+1	-2.17E+1	2.26E+2
RWD	kg	4.32E-2	3.64E-3	1.03E-3	4.79E-2	1.85E-3	6.60E-3	1.00E-4	-1.49E-2	4.15E-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



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