

Environmental Profile

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

Ecochain v3.5.64



Product: 3015355 - SafeTech RCn WWP Pp 90x8.2 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	4.30E+2	1.17E+1	7.83E+0	4.50E+2	5.64E+0	1.83E+2	3.12E+0	-2.83E+2	3.59E+2
GWP-f	kg CO2 eq	4.28E+2	1.17E+1	6.54E+0	4.46E+2	5.63E+0	1.83E+2	3.12E+0	-2.81E+2	3.57E+2
GWP-b	kg CO2 eq	2.10E+0	4.96E-3	6.11E-1	2.72E+0	3.42E-3	-2.25E-1	2.34E-3	-1.07E+0	1.43E+0
GWP-luluc	kg CO2 eq	1.30E-1	4.47E-3	6.83E-1	8.17E-1	1.99E-3	3.16E-2	4.49E-5	-6.41E-2	7.87E-1
ODP	kg CFC11 eq	2.22E-5	2.58E-6	9.09E-7	2.57E-5	1.30E-6	4.12E-6	6.66E-8	-1.35E-5	1.77E-5
AP	mol H+ eq	1.60E+0	8.59E-2	3.77E-2	1.73E+0	3.21E-2	1.73E-1	1.59E-3	-7.80E-1	1.15E+0
EP-fw	kg P eq	7.13E-3	1.14E-4	1.46E-4	7.39E-3	4.64E-5	9.13E-4	2.07E-6	-3.51E-3	4.85E-3
EP-m	kg N eq	2.68E-1	2.80E-2	8.21E-3	3.04E-1	1.15E-2	5.04E-2	1.12E-3	-1.42E-1	2.24E-1
EP-T	mol N eq	2.99E+0	3.10E-1	8.15E-2	3.38E+0	1.27E-1	5.54E-1	6.45E-3	-1.59E+0	2.48E+0
POCP	kg NMVOC eq	1.42E+0	8.67E-2	2.35E-2	1.53E+0	3.62E-2	1.75E-1	2.53E-3	-7.39E-1	1.01E+0
ADP-mm	kg Sb eq	4.24E-3	2.85E-4	1.75E-4	4.70E-3	1.46E-4	6.85E-4	1.60E-6	-1.82E-3	3.71E-3
ADP-f	MJ	1.51E+4	1.75E+2	7.81E+1	1.54E+4	8.65E+1	5.49E+2	4.86E+0	-8.44E+3	7.58E+3
WDP	m3 depriv.	3.30E+2	6.08E-1	4.00E+1	3.70E+2	2.65E-1	1.08E+1	2.25E-2	-1.64E+2	2.17E+2
PM	disease inc.	1.50E-5	1.01E-6	3.57E-7	1.64E-5	5.08E-7	2.85E-6	3.34E-8	-6.17E-6	1.36E-5
IR	kBq U-235 eq	1.28E+1	7.36E-1	2.24E-1	1.37E+1	3.78E-1	1.65E+0	2.27E-2	-5.10E+0	1.07E+1
ETP-fw	CTUe	2.77E+3	1.54E+2	1.79E+2	3.10E+3	7.02E+1	6.23E+2	4.29E+0	-1.23E+3	2.57E+3
HTP-c	CTUh	1.14E-7	5.18E-9	6.63E-9	1.26E-7	2.50E-9	7.41E-8	1.18E-10	-5.83E-8	1.44E-7
HTP-nc	CTUh	2.71E-6	1.67E-7	1.67E-7	3.04E-6	8.37E-8	9.35E-7	2.73E-9	-1.31E-6	2.76E-6
SQP	Pt	5.79E+2	1.46E+2	8.10E+0	7.33E+2	7.40E+1	4.38E+2	1.25E+1	-2.68E+2	9.90E+2
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.47E+2	2.14E+0	3.68E+2	6.17E+2	1.24E+0	2.71E+1	1.92E-1	-1.22E+2	5.23E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.47E+2	2.14E+0	3.68E+2	6.17E+2	1.24E+0	2.71E+1	1.92E-1	-1.22E+2	5.23E+2
PENRE	MJ	1.62E+4	1.86E+2	8.34E+1	1.65E+4	9.18E+1	5.85E+2	5.16E+0	-9.11E+3	8.06E+3
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.62E+4	1.86E+2	8.34E+1	1.65E+4	9.18E+1	5.85E+2	5.16E+0	-9.11E+3	8.06E+3
PET	MJ	1.65E+4	1.88E+2	4.51E+2	1.71E+4	9.30E+1	6.12E+2	5.35E+0	-9.23E+3	8.59E+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	5.01E+0	2.07E-2	9.51E-1	5.98E+0	9.79E-3	3.17E-1	6.01E-3	-2.51E+0	3.81E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.06E-3	4.31E-4	1.37E-4	2.63E-3	2.21E-4	8.94E-4	5.84E-6	-2.48E-3	1.27E-3
NHWD	kg	1.42E+1	1.06E+1	1.70E-1	2.50E+1	5.36E+0	2.70E+1	2.14E+1	-6.88E+0	7.19E+1
RWD	kg	1.37E-2	1.16E-3	3.28E-4	1.52E-2	5.88E-4	2.09E-3	3.18E-5	-4.73E-3	1.32E-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