

Environmental Profile

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

Ecochain v3.5.64



Product: 3015474 - SafeTech RCn WWP Pp 140x12.7 L=100
Unit: 1 piece
Manufacturer: Wavin - DE - Westeregeln - verified
Address: Borrweg 10
39448 Börde-Hakel
Germany
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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	1.03E+3	2.81E+1	1.88E+1	1.08E+3	1.35E+1	4.39E+2	7.48E+0	-6.77E+2	8.60E+2
GWP-f	kg CO2 eq	1.03E+3	2.81E+1	1.57E+1	1.07E+3	1.35E+1	4.40E+2	7.48E+0	-6.75E+2	8.55E+2
GWP-b	kg CO2 eq	5.05E+0	1.19E-2	1.46E+0	6.52E+0	8.20E-3	-5.40E-1	5.62E-3	-2.56E+0	3.44E+0
GWP-luluc	kg CO2 eq	3.12E-1	1.07E-2	1.64E+0	1.96E+0	4.78E-3	7.59E-2	1.08E-4	-1.54E-1	1.89E+0
ODP	kg CFC11 eq	5.33E-5	6.18E-6	2.18E-6	6.16E-5	3.11E-6	9.87E-6	1.60E-7	-3.24E-5	4.24E-5
AP	mol H+ eq	3.84E+0	2.06E-1	9.04E-2	4.14E+0	7.69E-2	4.15E-1	3.81E-3	-1.87E+0	2.77E+0
EP-fw	kg P eq	1.71E-2	2.74E-4	3.49E-4	1.77E-2	1.11E-4	2.19E-3	4.95E-6	-8.41E-3	1.16E-2
EP-m	kg N eq	6.41E-1	6.72E-2	1.97E-2	7.28E-1	2.75E-2	1.21E-1	2.69E-3	-3.42E-1	5.37E-1
EP-T	mol N eq	7.17E+0	7.42E-1	1.95E-1	8.11E+0	3.03E-1	1.33E+0	1.55E-2	-3.80E+0	5.95E+0
POCP	kg NMVOC eq	3.41E+0	2.08E-1	5.63E-2	3.68E+0	8.67E-2	4.20E-1	6.06E-3	-1.77E+0	2.42E+0
ADP-mm	kg Sb eq	1.02E-2	6.83E-4	4.19E-4	1.13E-2	3.49E-4	1.64E-3	3.82E-6	-4.36E-3	8.89E-3
ADP-f	MJ	3.63E+4	4.20E+2	1.87E+2	3.69E+4	2.07E+2	1.32E+3	1.17E+1	-2.02E+4	1.82E+4
WDP	m3 depriv.	7.90E+2	1.46E+0	9.59E+1	8.88E+2	6.36E-1	2.59E+1	5.40E-2	-3.93E+2	5.21E+2
PM	disease inc.	3.60E-5	2.43E-6	8.55E-7	3.92E-5	1.22E-6	6.83E-6	8.01E-8	-1.48E-5	3.26E-5
IR	kBq U-235 eq	3.06E+1	1.76E+0	5.37E-1	3.29E+1	9.06E-1	3.96E+0	5.43E-2	-1.22E+1	2.57E+1
ETP-fw	CTUe	6.64E+3	3.70E+2	4.30E+2	7.44E+3	1.68E+2	1.49E+3	1.03E+1	-2.94E+3	6.17E+3
HTP-c	CTUh	2.74E-7	1.24E-8	1.59E-8	3.02E-7	5.99E-9	1.78E-7	2.84E-10	-1.40E-7	3.46E-7
HTP-nc	CTUh	6.49E-6	4.00E-7	4.01E-7	7.29E-6	2.01E-7	2.24E-6	6.53E-9	-3.13E-6	6.61E-6
SQP	Pt	1.39E+3	3.50E+2	1.94E+1	1.76E+3	1.77E+2	1.05E+3	2.99E+1	-6.42E+2	2.37E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.91E+2	5.14E+0	8.82E+2	1.48E+3	2.97E+0	6.49E+1	4.61E-1	-2.93E+2	1.25E+3
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.91E+2	5.14E+0	8.82E+2	1.48E+3	2.97E+0	6.49E+1	4.61E-1	-2.93E+2	1.25E+3
PENRE	MJ	3.89E+4	4.46E+2	2.00E+2	3.95E+4	2.20E+2	1.40E+3	1.24E+1	-2.18E+4	1.93E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.89E+4	4.46E+2	2.00E+2	3.95E+4	2.20E+2	1.40E+3	1.24E+1	-2.18E+4	1.93E+4
PET	MJ	3.95E+4	4.52E+2	1.08E+3	4.10E+4	2.23E+2	1.47E+3	1.28E+1	-2.21E+4	2.06E+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	1.20E+1	4.97E-2	2.28E+0	1.43E+1	2.35E-2	7.60E-1	1.44E-2	-6.01E+0	9.13E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.93E-3	1.03E-3	3.29E-4	6.29E-3	5.30E-4	2.14E-3	1.40E-5	-5.94E-3	3.03E-3
NHWD	kg	3.41E+1	2.54E+1	4.08E-1	5.99E+1	1.28E+1	6.46E+1	5.14E+1	-1.65E+1	1.72E+2
RWD	kg	3.29E-2	2.77E-3	7.87E-4	3.64E-2	1.41E-3	5.02E-3	7.62E-5	-1.13E-2	3.16E-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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