

Environmental Profile

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

Ecochain v3.5.64



Product: 3015470 - SafeTech RCn WWP Pp 315x28.6 L=12
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 Hvell - 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]; **SOQ** = 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	6.25E+2	1.71E+1	1.35E+1	6.56E+2	8.19E+0	2.67E+2	4.53E+0	-4.11E+2	5.25E+2
GWP-f	kg CO2 eq	6.22E+2	1.70E+1	1.10E+1	6.51E+2	8.18E+0	2.67E+2	4.53E+0	-4.09E+2	5.21E+2
GWP-b	kg CO2 eq	3.03E+0	7.21E-3	1.18E+0	4.22E+0	4.97E-3	-3.15E-1	3.40E-3	-1.55E+0	2.36E+0
GWP-luluc	kg CO2 eq	1.90E-1	6.49E-3	1.34E+0	1.53E+0	2.90E-3	4.60E-2	6.51E-5	-9.31E-2	1.49E+0
ODP	kg CFC11 eq	3.23E-5	3.74E-6	1.41E-6	3.75E-5	1.89E-6	5.98E-6	9.67E-8	-1.96E-5	2.58E-5
AP	mol H+ eq	2.33E+0	1.25E-1	6.61E-2	2.52E+0	4.66E-2	2.52E-1	2.31E-3	-1.13E+0	1.69E+0
EP-fw	kg P eq	1.04E-2	1.66E-4	2.52E-4	1.08E-2	6.73E-5	1.33E-3	3.00E-6	-5.10E-3	7.12E-3
EP-m	kg N eq	3.89E-1	4.07E-2	1.33E-2	4.43E-1	1.67E-2	7.32E-2	1.63E-3	-2.07E-1	3.28E-1
EP-T	mol N eq	4.35E+0	4.50E-1	1.34E-1	4.94E+0	1.84E-1	8.06E-1	9.37E-3	-2.30E+0	3.63E+0
POCP	kg NMVOC eq	2.07E+0	1.26E-1	3.87E-2	2.24E+0	5.25E-2	2.55E-1	3.67E-3	-1.07E+0	1.47E+0
ADP-mm	kg Sb eq	6.16E-3	4.14E-4	3.39E-4	6.91E-3	2.12E-4	9.95E-4	2.32E-6	-2.64E-3	5.48E-3
ADP-f	MJ	2.20E+4	2.55E+2	1.29E+2	2.24E+4	1.26E+2	7.97E+2	7.06E+0	-1.23E+4	1.10E+4
WDP	m3 depriv.	4.79E+2	8.84E-1	7.69E+1	5.57E+2	3.85E-1	1.57E+1	3.27E-2	-2.38E+2	3.35E+2
PM	disease inc.	2.18E-5	1.47E-6	5.76E-7	2.39E-5	7.39E-7	4.14E-6	4.85E-8	-8.96E-6	1.98E-5
IR	kBq U-235 eq	1.86E+1	1.07E+0	3.35E-1	2.00E+1	5.49E-1	2.40E+0	3.29E-2	-7.40E+0	1.56E+1
ETP-fw	CTUe	4.04E+3	2.24E+2	3.25E+2	4.59E+3	1.02E+2	9.05E+2	6.22E+0	-1.78E+3	3.82E+3
HTP-c	CTUh	1.66E-7	7.52E-9	1.21E-8	1.86E-7	3.63E-9	1.08E-7	1.72E-10	-8.48E-8	2.12E-7
HTP-nc	CTUh	3.94E-6	2.43E-7	3.15E-7	4.50E-6	1.22E-7	1.36E-6	3.96E-9	-1.90E-6	4.08E-6
SQP	Pt	8.45E+2	2.12E+2	1.19E+1	1.07E+3	1.07E+2	6.37E+2	1.81E+1	-3.89E+2	1.44E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.59E+2	3.11E+0	7.20E+2	1.08E+3	1.80E+0	3.93E+1	2.79E-1	-1.77E+2	9.46E+2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.59E+2	3.11E+0	7.20E+2	1.08E+3	1.80E+0	3.93E+1	2.79E-1	-1.77E+2	9.46E+2
PENRE	MJ	2.36E+4	2.71E+2	1.38E+2	2.40E+4	1.33E+2	8.50E+2	7.49E+0	-1.32E+4	1.17E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.36E+4	2.71E+2	1.38E+2	2.40E+4	1.33E+2	8.50E+2	7.49E+0	-1.32E+4	1.17E+4
PET	MJ	2.39E+4	2.74E+2	8.57E+2	2.51E+4	1.35E+2	8.89E+2	7.77E+0	-1.34E+4	1.27E+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	7.29E+0	3.01E-2	1.83E+0	9.15E+0	1.42E-2	4.61E-1	8.73E-3	-3.64E+0	5.99E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.00E-3	6.25E-4	1.99E-4	3.83E-3	3.21E-4	1.30E-3	8.48E-6	-3.61E-3	1.84E-3
NHWD	kg	2.07E+1	1.54E+1	2.53E-1	3.64E+1	7.78E+0	3.92E+1	3.11E+1	-1.00E+1	1.04E+2
RWD	kg	1.99E-2	1.68E-3	4.77E-4	2.21E-2	8.54E-4	3.04E-3	4.62E-5	-6.88E-3	1.92E-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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