

Environmental Profile

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

Ecochain v3.5.64



Product: 3015483 - SafeTech RCn WWP Pp 450x26.7 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 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	8.63E+2	2.36E+1	1.87E+1	9.06E+2	1.13E+1	3.68E+2	6.26E+0	-5.67E+2	7.24E+2
GWP-f	kg CO2 eq	8.59E+2	2.35E+1	1.52E+1	8.98E+2	1.13E+1	3.68E+2	6.27E+0	-5.65E+2	7.19E+2
GWP-b	kg CO2 eq	4.20E+0	9.96E-3	1.63E+0	5.85E+0	6.87E-3	-4.28E-1	4.70E-3	-2.14E+0	3.29E+0
GWP-luluc	kg CO2 eq	2.61E-1	8.97E-3	1.85E+0	2.12E+0	4.00E-3	6.35E-2	9.00E-5	-1.29E-1	2.06E+0
ODP	kg CFC11 eq	4.46E-5	5.17E-6	1.95E-6	5.17E-5	2.61E-6	8.27E-6	1.34E-7	-2.71E-5	3.57E-5
AP	mol H+ eq	3.22E+0	1.72E-1	9.14E-2	3.48E+0	6.44E-2	3.48E-1	3.19E-3	-1.57E+0	2.33E+0
EP-fw	kg P eq	1.43E-2	2.29E-4	3.49E-4	1.49E-2	9.31E-5	1.83E-3	4.15E-6	-7.04E-3	9.79E-3
EP-m	kg N eq	5.37E-1	5.63E-2	1.83E-2	6.12E-1	2.30E-2	1.01E-1	2.25E-3	-2.86E-1	4.52E-1
EP-T	mol N eq	6.01E+0	6.21E-1	1.86E-1	6.81E+0	2.54E-1	1.11E+0	1.29E-2	-3.18E+0	5.01E+0
POCP	kg NMVOC eq	2.86E+0	1.74E-1	5.35E-2	3.09E+0	7.26E-2	3.52E-1	5.08E-3	-1.48E+0	2.03E+0
ADP-mm	kg Sb eq	8.50E-3	5.72E-4	4.68E-4	9.54E-3	2.93E-4	1.38E-3	3.20E-6	-3.65E-3	7.56E-3
ADP-f	MJ	3.04E+4	3.52E+2	1.78E+2	3.09E+4	1.74E+2	1.10E+3	9.76E+0	-1.70E+4	1.52E+4
WDP	m3 depriv.	6.62E+2	1.22E+0	1.06E+2	7.70E+2	5.33E-1	2.16E+1	4.52E-2	-3.29E+2	4.62E+2
PM	disease inc.	3.01E-5	2.04E-6	7.97E-7	3.30E-5	1.02E-6	5.72E-6	6.71E-8	-1.24E-5	2.74E-5
IR	kBq U-235 eq	2.57E+1	1.48E+0	4.64E-1	2.76E+1	7.59E-1	3.32E+0	4.55E-2	-1.02E+1	2.15E+1
ETP-fw	CTUe	5.56E+3	3.10E+2	4.49E+2	6.32E+3	1.41E+2	1.25E+3	8.60E+0	-2.46E+3	5.26E+3
HTP-c	CTUh	2.29E-7	1.04E-8	1.68E-8	2.56E-7	5.02E-9	1.49E-7	2.37E-10	-1.17E-7	2.93E-7
HTP-nc	CTUh	5.43E-6	3.35E-7	4.35E-7	6.20E-6	1.68E-7	1.88E-6	5.47E-9	-2.62E-6	5.63E-6
SQP	Pt	1.16E+3	2.93E+2	1.65E+1	1.47E+3	1.49E+2	8.80E+2	2.50E+1	-5.38E+2	1.99E+3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.96E+2	4.30E+0	9.95E+2	1.49E+3	2.49E+0	5.44E+1	3.86E-1	-2.45E+2	1.31E+3
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.96E+2	4.30E+0	9.95E+2	1.49E+3	2.49E+0	5.44E+1	3.86E-1	-2.45E+2	1.31E+3
PENRE	MJ	3.26E+4	3.74E+2	1.90E+2	3.31E+4	1.84E+2	1.17E+3	1.04E+1	-1.83E+4	1.62E+4
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.26E+4	3.74E+2	1.90E+2	3.31E+4	1.84E+2	1.17E+3	1.04E+1	-1.83E+4	1.62E+4
PET	MJ	3.31E+4	3.78E+2	1.18E+3	3.46E+4	1.87E+2	1.23E+3	1.07E+1	-1.85E+4	1.75E+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	1.01E+1	4.16E-2	2.53E+0	1.26E+1	1.96E-2	6.37E-1	1.21E-2	-5.03E+0	8.27E+0

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.13E-3	8.64E-4	2.76E-4	5.27E-3	4.44E-4	1.79E-3	1.17E-5	-4.98E-3	2.54E-3
NHWD	kg	2.85E+1	2.13E+1	3.49E-1	5.02E+1	1.08E+1	5.41E+1	4.30E+1	-1.38E+1	1.44E+2
RWD	kg	2.75E-2	2.32E-3	6.59E-4	3.05E-2	1.18E-3	4.21E-3	6.38E-5	-9.50E-3	2.65E-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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