

Environmental Profile

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

Ecochain v3.5.64



Product: 3080008 - AS+ Cornerbranch DN 100x100x100 87°
 Unit: 1 piece
 Manufacturer: Wavin Germany Twist
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 Germany
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LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 08-04-2022
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 Verifier: Harry van Ewijk - SGS Search



This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

Wavin AS+ is a mineral-reinforced polypropylene (PP) low noise soil and waste solution. The AS+ has a unique material composition for optimal noise reduction.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin Germany Twist (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	2.08E+0	7.35E-2	9.89E-2	2.25E+0	3.09E-2	1.12E+0	6.59E-3	-1.18E+0	2.22E+0
GWP-f	kg CO2 eq	2.08E+0	7.35E-2	8.07E-2	2.23E+0	3.09E-2	1.04E+0	6.59E-3	-1.34E+0	1.97E+0
GWP-b	kg CO2 eq	-3.85E-3	3.39E-5	1.21E-2	8.26E-3	1.87E-5	7.41E-2	1.26E-5	1.57E-1	2.40E-1
GWP-luluc	kg CO2 eq	2.13E-3	2.69E-5	6.19E-3	8.36E-3	1.09E-5	2.54E-4	2.58E-7	-1.40E-3	7.23E-3
ODP	kg CFC11 eq	1.83E-7	1.62E-8	9.21E-9	2.08E-7	7.11E-9	6.09E-8	3.75E-10	-4.95E-8	2.27E-7
AP	mol H+ eq	9.35E-3	4.26E-4	3.88E-4	1.02E-2	1.76E-4	1.47E-3	8.94E-6	-4.60E-3	7.22E-3
EP-fw	kg P eq	5.97E-5	7.41E-7	1.23E-6	6.16E-5	2.54E-7	1.27E-5	1.17E-8	-2.94E-5	4.52E-5
EP-m	kg N eq	1.81E-3	1.50E-4	1.02E-4	2.06E-3	6.29E-5	3.87E-4	5.72E-6	-8.36E-4	1.68E-3
EP-T	mol N eq	2.02E-2	1.66E-3	1.08E-3	2.29E-2	6.93E-4	4.28E-3	3.63E-5	-9.35E-3	1.86E-2
POCP	kg NMVOC eq	6.89E-3	4.73E-4	3.09E-4	7.68E-3	1.98E-4	1.31E-3	1.17E-5	-3.93E-3	5.26E-3
ADP-mm	kg Sb eq	1.98E-4	1.86E-6	1.66E-6	2.02E-4	7.98E-7	5.13E-6	9.06E-9	-1.25E-5	1.95E-4
ADP-f	MJ	4.44E+1	1.11E+0	1.02E+0	4.65E+1	4.74E-1	4.46E+0	2.73E-2	-4.32E+1	8.33E+0
WDP	m3 depriv.	1.99E+0	3.96E-3	6.03E-1	2.59E+0	1.45E-3	1.01E-1	1.58E-4	-9.91E-1	1.71E+0
PM	disease inc.	8.81E-8	6.60E-9	5.26E-9	9.99E-8	2.79E-9	2.34E-8	1.88E-10	-4.80E-8	7.83E-8
IR	kBq U-235 eq	8.54E-2	4.64E-3	1.36E-3	9.14E-2	2.07E-3	1.58E-2	1.26E-4	-3.03E-2	7.92E-2
ETP-fw	CTUe	4.79E+2	9.88E-1	1.55E+0	4.81E+2	3.85E-1	1.07E+1	2.34E-2	-1.76E+1	4.75E+2
HTP-c	CTUh	8.47E-10	3.21E-11	6.64E-11	9.45E-10	1.37E-11	5.92E-10	6.74E-13	-3.19E-10	1.23E-9
HTP-nc	CTUh	2.24E-7	1.08E-9	1.63E-9	2.27E-7	4.59E-10	7.74E-9	1.38E-11	-9.70E-9	2.25E-7
SQP	Pt	1.26E+1	9.62E-1	9.87E-2	1.36E+1	4.05E-1	3.08E+0	7.02E-2	-3.02E+1	-1.30E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.83E+0	1.39E-2	3.34E+0	6.18E+0	6.80E-3	3.93E-1	1.02E-3	-5.81E+0	7.72E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.83E+0	1.39E-2	3.34E+0	6.18E+0	6.80E-3	3.93E-1	1.02E-3	-5.81E+0	7.72E-1
PENRE	MJ	4.75E+1	1.18E+0	1.11E+0	4.98E+1	5.03E-1	4.75E+0	2.90E-2	-4.64E+1	8.70E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.75E+1	1.18E+0	1.11E+0	4.98E+1	5.03E-1	4.75E+0	2.90E-2	-4.64E+1	8.70E+0
PET	MJ	5.04E+1	1.19E+0	4.45E+0	5.60E+1	5.10E-1	5.14E+0	3.00E-2	-5.22E+1	9.47E+0
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	4.56E-2	1.35E-4	1.42E-2	6.00E-2	5.36E-5	3.21E-3	3.36E-5	-1.74E-2	4.59E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.32E-5	2.81E-6	1.25E-6	2.73E-5	1.21E-6	9.91E-6	3.31E-8	-9.32E-6	2.91E-5
NHWD	kg	1.91E-1	7.03E-2	5.09E-3	2.66E-1	2.94E-2	2.16E-1	1.20E-1	-4.60E-2	5.86E-1
RWD	kg	9.42E-5	7.28E-6	1.79E-6	1.03E-4	3.22E-6	2.00E-5	1.78E-7	-2.77E-5	9.90E-5
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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