

Environmental Profile

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

Ecochain v3.5.64



Product: 3079980 - AS+ Branch DN 100x100 87° IR
 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

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
 A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
 B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
 C4 Disposal

Benefits and loads beyond the system boundaries

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	1.83E+0	6.71E-2	9.23E-2	1.99E+0	2.86E-2	9.59E-1	5.97E-3	-1.12E+0	1.86E+0
GWP-f	kg CO2 eq	1.83E+0	6.70E-2	7.53E-2	1.97E+0	2.86E-2	9.20E-1	5.97E-3	-1.19E+0	1.73E+0
GWP-b	kg CO2 eq	-3.69E-3	3.09E-5	1.13E-2	7.62E-3	1.74E-5	3.91E-2	1.16E-5	7.78E-2	1.25E-1
GWP-luluc	kg CO2 eq	1.57E-3	2.46E-5	5.78E-3	7.37E-3	1.01E-5	2.35E-4	2.37E-7	-8.22E-4	6.80E-3
ODP	kg CFC11 eq	1.51E-7	1.48E-8	8.59E-9	1.74E-7	6.59E-9	5.58E-8	3.45E-10	-3.89E-8	1.98E-7
AP	mol H+ eq	8.11E-3	3.89E-4	3.62E-4	8.87E-3	1.63E-4	1.33E-3	8.22E-6	-3.95E-3	6.41E-3
EP-fw	kg P eq	4.98E-5	6.76E-7	1.15E-6	5.16E-5	2.35E-7	1.18E-5	1.08E-8	-2.14E-5	4.22E-5
EP-m	kg N eq	1.53E-3	1.37E-4	9.51E-5	1.76E-3	5.83E-5	3.47E-4	5.10E-6	-7.01E-4	1.47E-3
EP-T	mol N eq	1.73E-2	1.51E-3	1.00E-3	1.98E-2	6.42E-4	3.83E-3	3.34E-5	-7.81E-3	1.65E-2
POCP	kg NMVOC eq	5.97E-3	4.31E-4	2.88E-4	6.69E-3	1.84E-4	1.18E-3	1.07E-5	-3.44E-3	4.62E-3
ADP-mm	kg Sb eq	1.66E-4	1.70E-6	1.55E-6	1.69E-4	7.40E-7	4.64E-6	8.34E-9	-1.06E-5	1.64E-4
ADP-f	MJ	3.92E+1	1.01E+0	9.49E-1	4.11E+1	4.39E-1	4.10E+0	2.51E-2	-3.93E+1	6.37E+0
WDP	m3 depriv.	1.80E+0	3.62E-3	5.63E-1	2.37E+0	1.35E-3	9.34E-2	1.47E-4	-8.26E-1	1.64E+0
PM	disease inc.	7.37E-8	6.02E-9	4.91E-9	8.46E-8	2.58E-9	2.13E-8	1.73E-10	-3.82E-8	7.04E-8
IR	kBq U-235 eq	7.26E-2	4.24E-3	1.27E-3	7.81E-2	1.92E-3	1.45E-2	1.16E-4	-2.38E-2	7.08E-2
ETP-fw	CTUe	4.37E+2	9.01E-1	1.45E+0	4.40E+2	3.56E-1	9.78E+0	2.11E-2	-1.12E+1	4.39E+2
HTP-c	CTUh	7.32E-10	2.92E-11	6.19E-11	8.23E-10	1.27E-11	5.43E-10	6.20E-13	-2.56E-10	1.12E-9
HTP-nc	CTUh	2.08E-7	9.86E-10	1.52E-9	2.10E-7	4.25E-10	7.08E-9	1.26E-11	-7.66E-9	2.10E-7
SQP	Pt	8.69E+0	8.77E-1	9.21E-2	9.65E+0	3.76E-1	2.84E+0	6.46E-2	-1.58E+1	-2.86E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.01E+0	1.27E-2	3.12E+0	5.14E+0	6.30E-3	3.65E-1	9.36E-4	-3.18E+0	2.33E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.01E+0	1.27E-2	3.12E+0	5.14E+0	6.30E-3	3.65E-1	9.36E-4	-3.18E+0	2.33E+0
PENRE	MJ	4.19E+1	1.07E+0	1.03E+0	4.41E+1	4.66E-1	4.36E+0	2.67E-2	-4.23E+1	6.61E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.19E+1	1.07E+0	1.03E+0	4.41E+1	4.66E-1	4.36E+0	2.67E-2	-4.23E+1	6.61E+0
PET	MJ	4.40E+1	1.09E+0	4.15E+0	4.92E+1	4.72E-1	4.72E+0	2.76E-2	-4.55E+1	8.94E+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	4.10E-2	1.23E-4	1.33E-2	5.43E-2	4.97E-5	2.91E-3	3.09E-5	-1.36E-2	4.37E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.96E-5	2.56E-6	1.17E-6	2.33E-5	1.12E-6	9.05E-6	3.05E-8	-7.44E-6	2.61E-5
NHWD	kg	1.62E-1	6.41E-2	4.75E-3	2.31E-1	2.72E-2	1.97E-1	1.11E-1	-3.73E-2	5.29E-1
RWD	kg	7.92E-5	6.64E-6	1.67E-6	8.75E-5	2.99E-6	1.82E-5	1.64E-7	-2.15E-5	8.74E-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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