

Environmental Profile

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

Ecochain v3.5.64



Product: 3080001 - AS+ Branch DN 70x70 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

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	6.64E-1	2.30E-2	3.06E-2	7.18E-1	9.68E-3	3.63E-1	2.11E-3	-3.73E-1	7.20E-1
GWP-f	kg CO2 eq	6.65E-1	2.30E-2	2.49E-2	7.13E-1	9.67E-3	3.38E-1	2.11E-3	-4.25E-1	6.38E-1
GWP-b	kg CO2 eq	-1.40E-3	1.06E-5	3.74E-3	2.35E-3	5.87E-6	2.46E-2	3.97E-6	5.25E-2	7.95E-2
GWP-luluc	kg CO2 eq	6.97E-4	8.42E-6	1.92E-3	2.62E-3	3.42E-6	7.91E-5	8.15E-8	-4.60E-4	2.24E-3
ODP	kg CFC11 eq	6.06E-8	5.07E-9	2.85E-9	6.85E-8	2.23E-9	1.90E-8	1.18E-10	-1.63E-8	7.35E-8
AP	mol H+ eq	3.02E-3	1.33E-4	1.20E-4	3.27E-3	5.51E-5	4.60E-4	2.82E-6	-1.45E-3	2.34E-3
EP-fw	kg P eq	1.93E-5	2.32E-7	3.80E-7	1.99E-5	7.96E-8	3.95E-6	3.71E-9	-9.47E-6	1.45E-5
EP-m	kg N eq	5.83E-4	4.70E-5	3.15E-5	6.62E-4	1.97E-5	1.22E-4	1.85E-6	-2.66E-4	5.39E-4
EP-T	mol N eq	6.51E-3	5.18E-4	3.33E-4	7.36E-3	2.17E-4	1.35E-3	1.14E-5	-2.97E-3	5.96E-3
POCP	kg NMVOC eq	2.22E-3	1.48E-4	9.55E-5	2.47E-3	6.21E-5	4.12E-4	3.69E-6	-1.24E-3	1.70E-3
ADP-mm	kg Sb eq	6.69E-5	5.82E-7	5.14E-7	6.80E-5	2.50E-7	1.61E-6	2.86E-9	-4.06E-6	6.58E-5
ADP-f	MJ	1.42E+1	3.47E-1	3.15E-1	1.49E+1	1.48E-1	1.39E+0	8.62E-3	-1.36E+1	2.89E+0
WDP	m3 depriv.	6.29E-1	1.24E-3	1.87E-1	8.16E-1	4.55E-4	3.16E-2	5.09E-5	-3.14E-1	5.34E-1
PM	disease inc.	2.87E-8	2.06E-9	1.63E-9	3.24E-8	8.73E-10	7.31E-9	5.93E-11	-1.53E-8	2.53E-8
IR	kBq U-235 eq	2.79E-2	1.45E-3	4.20E-4	2.98E-2	6.49E-4	4.93E-3	3.96E-5	-9.71E-3	2.57E-2
ETP-fw	CTUe	1.49E+2	3.09E-1	4.79E-1	1.50E+2	1.21E-1	3.35E+0	7.52E-3	-5.76E+0	1.48E+2
HTP-c	CTUh	2.74E-10	1.00E-11	2.05E-11	3.04E-10	4.29E-12	1.86E-10	2.14E-13	-1.02E-10	3.93E-10
HTP-nc	CTUh	6.98E-8	3.38E-10	5.05E-10	7.07E-8	1.44E-10	2.42E-9	4.40E-12	-3.10E-9	7.01E-8
SQP	Pt	4.14E+0	3.01E-1	3.05E-2	4.47E+0	1.27E-1	9.63E-1	2.21E-2	-1.00E+1	-4.45E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.27E-1	4.34E-3	1.03E+0	1.96E+0	2.13E-3	1.22E-1	3.22E-4	-1.93E+0	1.63E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.27E-1	4.34E-3	1.03E+0	1.96E+0	2.13E-3	1.22E-1	3.22E-4	-1.93E+0	1.63E-1
PENRE	MJ	1.53E+1	3.68E-1	3.43E-1	1.60E+1	1.58E-1	1.48E+0	9.14E-3	-1.46E+1	3.02E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.53E+1	3.68E-1	3.43E-1	1.60E+1	1.58E-1	1.48E+0	9.14E-3	-1.46E+1	3.02E+0
PET	MJ	1.62E+1	3.72E-1	1.38E+0	1.79E+1	1.60E-1	1.61E+0	9.46E-3	-1.65E+1	3.19E+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	1.45E-2	4.22E-5	4.40E-3	1.89E-2	1.68E-5	1.02E-3	1.06E-5	-5.56E-3	1.44E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.55E-6	8.78E-7	3.86E-7	8.81E-6	3.80E-7	3.10E-6	1.05E-8	-3.06E-6	9.25E-6
NHWD	kg	6.16E-2	2.20E-2	1.57E-3	8.51E-2	9.20E-3	6.76E-2	3.79E-2	-1.47E-2	1.85E-1
RWD	kg	3.10E-5	2.28E-6	5.54E-7	3.39E-5	1.01E-6	6.25E-6	5.61E-8	-8.91E-6	3.23E-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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