

Environmental Profile

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

Ecochain v3.5.64



Product: 3079983 - AS+ Branch DN 100x50 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
 End of validity: 08-04-2027
 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	1.13E+0	4.05E-2	5.46E-2	1.22E+0	1.70E-2	6.00E-1	3.59E-3	-6.51E-1	1.19E+0
GWP-f	kg CO2 eq	1.13E+0	4.04E-2	4.45E-2	1.22E+0	1.70E-2	5.61E-1	3.59E-3	-7.33E-1	1.06E+0
GWP-b	kg CO2 eq	-1.93E-3	1.87E-5	6.67E-3	4.76E-3	1.03E-5	3.89E-2	6.90E-6	8.22E-2	1.26E-1
GWP-luluc	kg CO2 eq	1.14E-3	1.48E-5	3.42E-3	4.58E-3	6.02E-6	1.40E-4	1.41E-7	-7.39E-4	3.98E-3
ODP	kg CFC11 eq	9.70E-8	8.92E-9	5.08E-9	1.11E-7	3.92E-9	3.35E-8	2.05E-10	-2.63E-8	1.22E-7
AP	mol H+ eq	5.07E-3	2.34E-4	2.14E-4	5.52E-3	9.68E-5	8.06E-4	4.90E-6	-2.52E-3	3.91E-3
EP-fw	kg P eq	3.22E-5	4.08E-7	6.78E-7	3.33E-5	1.40E-7	7.00E-6	6.44E-9	-1.58E-5	2.47E-5
EP-m	kg N eq	9.80E-4	8.26E-5	5.62E-5	1.12E-3	3.47E-5	2.13E-4	3.09E-6	-4.56E-4	9.14E-4
EP-T	mol N eq	1.10E-2	9.11E-4	5.94E-4	1.25E-2	3.82E-4	2.35E-3	1.99E-5	-5.10E-3	1.01E-2
POCP	kg NMVOC eq	3.73E-3	2.60E-4	1.70E-4	4.16E-3	1.09E-4	7.20E-4	6.40E-6	-2.15E-3	2.84E-3
ADP-mm	kg Sb eq	1.04E-4	1.02E-6	9.17E-7	1.06E-4	4.40E-7	2.82E-6	4.97E-9	-6.66E-6	1.03E-4
ADP-f	MJ	2.41E+1	6.10E-1	5.61E-1	2.52E+1	2.61E-1	2.46E+0	1.50E-2	-2.37E+1	4.25E+0
WDP	m3 depriv.	1.09E+0	2.18E-3	3.33E-1	1.42E+0	8.01E-4	5.57E-2	8.77E-5	-5.41E-1	9.38E-1
PM	disease inc.	4.74E-8	3.63E-9	2.90E-9	5.39E-8	1.53E-9	1.29E-8	1.03E-10	-2.60E-8	4.23E-8
IR	kBq U-235 eq	4.58E-2	2.55E-3	7.49E-4	4.91E-2	1.14E-3	8.71E-3	6.89E-5	-1.64E-2	4.26E-2
ETP-fw	CTUe	2.64E+2	5.44E-1	8.55E-1	2.65E+2	2.12E-1	5.88E+0	1.27E-2	-9.35E+0	2.62E+2
HTP-c	CTUh	4.59E-10	1.76E-11	3.66E-11	5.13E-10	7.54E-12	3.27E-10	3.70E-13	-1.73E-10	6.75E-10
HTP-nc	CTUh	1.24E-7	5.95E-10	9.01E-10	1.25E-7	2.53E-10	4.26E-9	7.54E-12	-5.26E-9	1.24E-7
SQP	Pt	6.68E+0	5.29E-1	5.45E-2	7.26E+0	2.23E-1	1.70E+0	3.85E-2	-1.58E+1	-6.61E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.51E+0	7.63E-3	1.84E+0	3.36E+0	3.74E-3	2.17E-1	5.59E-4	-3.06E+0	5.22E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.51E+0	7.63E-3	1.84E+0	3.36E+0	3.74E-3	2.17E-1	5.59E-4	-3.06E+0	5.22E-1
PENRE	MJ	2.58E+1	6.47E-1	6.11E-1	2.70E+1	2.77E-1	2.62E+0	1.59E-2	-2.55E+1	4.43E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.58E+1	6.47E-1	6.11E-1	2.70E+1	2.77E-1	2.62E+0	1.59E-2	-2.55E+1	4.43E+0
PET	MJ	2.73E+1	6.55E-1	2.45E+0	3.04E+1	2.81E-1	2.84E+0	1.65E-2	-2.86E+1	4.95E+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	2.49E-2	7.43E-5	7.85E-3	3.29E-2	2.95E-5	1.75E-3	1.84E-5	-9.44E-3	2.52E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.25E-5	1.55E-6	6.89E-7	1.48E-5	6.67E-7	5.46E-6	1.82E-8	-4.97E-6	1.59E-5
NHWD	kg	1.03E-1	3.87E-2	2.81E-3	1.45E-1	1.62E-2	1.19E-1	6.61E-2	-2.50E-2	3.21E-1
RWD	kg	5.01E-5	4.00E-6	9.88E-7	5.51E-5	1.77E-6	1.10E-5	9.76E-8	-1.49E-5	5.31E-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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