

Environmental Profile

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

Ecochain v3.5.64



Product: 3079990 - AS+ Branch DN 125x125 45°
 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					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	2.69E+0	9.74E-2	1.33E-1	2.92E+0	4.13E-2	1.42E+0	8.67E-3	-1.60E+0	2.80E+0
GWP-f	kg CO2 eq	2.69E+0	9.74E-2	1.08E-1	2.90E+0	4.12E-2	1.35E+0	8.66E-3	-1.75E+0	2.55E+0
GWP-b	kg CO2 eq	-5.05E-3	4.49E-5	1.62E-2	1.12E-2	2.50E-5	7.53E-2	1.67E-5	1.56E-1	2.42E-1
GWP-luluc	kg CO2 eq	2.52E-3	3.57E-5	8.33E-3	1.09E-2	1.46E-5	3.39E-4	3.42E-7	-1.49E-3	9.75E-3
ODP	kg CFC11 eq	2.27E-7	2.15E-8	1.24E-8	2.61E-7	9.50E-9	8.09E-8	4.98E-10	-6.01E-8	2.92E-7
AP	mol H+ eq	1.20E-2	5.65E-4	5.22E-4	1.31E-2	2.35E-4	1.94E-3	1.19E-5	-5.90E-3	9.38E-3
EP-fw	kg P eq	7.50E-5	9.82E-7	1.65E-6	7.76E-5	3.39E-7	1.70E-5	1.56E-8	-3.46E-5	6.04E-5
EP-m	kg N eq	2.29E-3	1.99E-4	1.37E-4	2.63E-3	8.41E-5	5.08E-4	7.44E-6	-1.06E-3	2.17E-3
EP-T	mol N eq	2.58E-2	2.19E-3	1.45E-3	2.94E-2	9.26E-4	5.61E-3	4.83E-5	-1.18E-2	2.42E-2
POCP	kg NMVOC eq	8.84E-3	6.26E-4	4.15E-4	9.88E-3	2.65E-4	1.72E-3	1.55E-5	-5.09E-3	6.79E-3
ADP-mm	kg Sb eq	2.47E-4	2.47E-6	2.23E-6	2.52E-4	1.07E-6	6.77E-6	1.21E-8	-1.58E-5	2.44E-4
ADP-f	MJ	5.75E+1	1.47E+0	1.37E+0	6.03E+1	6.33E-1	5.94E+0	3.63E-2	-5.71E+1	9.81E+0
WDP	m3 depriv.	2.62E+0	5.25E-3	8.11E-1	3.43E+0	1.94E-3	1.35E-1	2.11E-4	-1.25E+0	2.32E+0
PM	disease inc.	1.11E-7	8.74E-9	7.08E-9	1.26E-7	3.72E-9	3.09E-8	2.50E-10	-5.91E-8	1.02E-7
IR	kBq U-235 eq	1.08E-1	6.15E-3	1.82E-3	1.16E-1	2.77E-3	2.10E-2	1.67E-4	-3.70E-2	1.03E-1
ETP-fw	CTUe	6.36E+2	1.31E+0	2.08E+0	6.39E+2	5.14E-1	1.42E+1	3.06E-2	-1.94E+1	6.34E+2
HTP-c	CTUh	1.08E-9	4.25E-11	8.92E-11	1.22E-9	1.83E-11	7.87E-10	8.96E-13	-3.94E-10	1.63E-9
HTP-nc	CTUh	3.00E-7	1.43E-9	2.19E-9	3.04E-7	6.13E-10	1.03E-8	1.82E-11	-1.19E-8	3.03E-7
SQP	Pt	1.44E+1	1.27E+0	1.33E-1	1.58E+1	5.42E-1	4.11E+0	9.33E-2	-3.05E+1	-1.00E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.28E+0	1.84E-2	4.49E+0	7.79E+0	9.08E-3	5.27E-1	1.35E-3	-6.00E+0	2.33E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.28E+0	1.84E-2	4.49E+0	7.79E+0	9.08E-3	5.27E-1	1.35E-3	-6.00E+0	2.33E+0
PENRE	MJ	6.16E+1	1.56E+0	1.49E+0	6.46E+1	6.72E-1	6.32E+0	3.86E-2	-6.14E+1	1.02E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.16E+1	1.56E+0	1.49E+0	6.46E+1	6.72E-1	6.32E+0	3.86E-2	-6.14E+1	1.02E+1
PET	MJ	6.48E+1	1.58E+0	5.98E+0	7.24E+1	6.81E-1	6.84E+0	3.99E-2	-6.74E+1	1.25E+1
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	5.98E-2	1.79E-4	1.91E-2	7.91E-2	7.16E-5	4.24E-3	4.46E-5	-2.13E-2	6.22E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.93E-5	3.72E-6	1.68E-6	3.47E-5	1.62E-6	1.31E-5	4.41E-8	-1.14E-5	3.81E-5
NHWD	kg	2.42E-1	9.31E-2	6.84E-3	3.42E-1	3.92E-2	2.86E-1	1.60E-1	-5.72E-2	7.70E-1
RWD	kg	1.18E-4	9.64E-6	2.41E-6	1.30E-4	4.31E-6	2.65E-5	2.37E-7	-3.36E-5	1.28E-4
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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