

Environmental Profile

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

Ecochain v3.5.64



Product: 3079987 - AS+ Branch DN 100x90 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	1.38E+0	4.97E-2	6.75E-2	1.50E+0	2.10E-2	7.35E-1	4.45E-3	-8.14E-1	1.44E+0
GWP-f	kg CO2 eq	1.38E+0	4.96E-2	5.50E-2	1.49E+0	2.10E-2	6.95E-1	4.45E-3	-8.95E-1	1.31E+0
GWP-b	kg CO2 eq	-2.74E-3	2.29E-5	8.24E-3	5.53E-3	1.28E-5	3.94E-2	8.54E-6	8.16E-2	1.26E-1
GWP-luluc	kg CO2 eq	1.30E-3	1.82E-5	4.22E-3	5.54E-3	7.44E-6	1.73E-4	1.75E-7	-7.74E-4	4.95E-3
ODP	kg CFC11 eq	1.19E-7	1.10E-8	6.28E-9	1.36E-7	4.84E-9	4.12E-8	2.54E-10	-3.12E-8	1.51E-7
AP	mol H+ eq	6.18E-3	2.88E-4	2.65E-4	6.73E-3	1.20E-4	9.86E-4	6.07E-6	-3.01E-3	4.83E-3
EP-fw	kg P eq	3.87E-5	5.00E-7	8.37E-7	4.00E-5	1.73E-7	8.63E-6	7.96E-9	-1.78E-5	3.10E-5
EP-m	kg N eq	1.18E-3	1.01E-4	6.95E-5	1.35E-3	4.28E-5	2.59E-4	3.84E-6	-5.42E-4	1.12E-3
EP-T	mol N eq	1.32E-2	1.12E-3	7.34E-4	1.51E-2	4.72E-4	2.86E-3	2.47E-5	-6.05E-3	1.24E-2
POCP	kg NMVOC eq	4.55E-3	3.19E-4	2.10E-4	5.08E-3	1.35E-4	8.78E-4	7.93E-6	-2.60E-3	3.50E-3
ADP-mm	kg Sb eq	1.30E-4	1.26E-6	1.13E-6	1.32E-4	5.44E-7	3.45E-6	6.16E-9	-8.17E-6	1.28E-4
ADP-f	MJ	2.96E+1	7.48E-1	6.94E-1	3.10E+1	3.23E-1	3.02E+0	1.86E-2	-2.91E+1	5.25E+0
WDP	m3 depriv.	1.34E+0	2.68E-3	4.11E-1	1.75E+0	9.90E-4	6.88E-2	1.08E-4	-6.40E-1	1.18E+0
PM	disease inc.	5.72E-8	4.46E-9	3.59E-9	6.53E-8	1.90E-9	1.58E-8	1.28E-10	-3.03E-8	5.28E-8
IR	kBq U-235 eq	5.61E-2	3.14E-3	9.25E-4	6.01E-2	1.41E-3	1.07E-2	8.53E-5	-1.90E-2	5.33E-2
ETP-fw	CTUe	3.23E+2	6.67E-1	1.06E+0	3.25E+2	2.62E-1	7.23E+0	1.58E-2	-1.00E+1	3.23E+2
HTP-c	CTUh	5.58E-10	2.16E-11	4.53E-11	6.25E-10	9.32E-12	4.01E-10	4.58E-13	-2.02E-10	8.34E-10
HTP-nc	CTUh	1.53E-7	7.30E-10	1.11E-9	1.54E-7	3.12E-10	5.23E-9	9.34E-12	-6.11E-9	1.54E-7
SQP	Pt	7.47E+0	6.49E-1	6.73E-2	8.18E+0	2.76E-1	2.09E+0	4.76E-2	-1.60E+1	-5.38E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.70E+0	9.37E-3	2.28E+0	3.99E+0	4.63E-3	2.68E-1	6.92E-4	-3.13E+0	1.13E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.70E+0	9.37E-3	2.28E+0	3.99E+0	4.63E-3	2.68E-1	6.92E-4	-3.13E+0	1.13E+0
PENRE	MJ	3.17E+1	7.94E-1	7.55E-1	3.32E+1	3.43E-1	3.22E+0	1.97E-2	-3.13E+1	5.47E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.17E+1	7.94E-1	7.55E-1	3.32E+1	3.43E-1	3.22E+0	1.97E-2	-3.13E+1	5.47E+0
PET	MJ	3.34E+1	8.04E-1	3.03E+0	3.72E+1	3.47E-1	3.48E+0	2.04E-2	-3.45E+1	6.60E+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	3.06E-2	9.11E-5	9.69E-3	4.04E-2	3.65E-5	2.17E-3	2.28E-5	-1.09E-2	3.17E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.51E-5	1.90E-6	8.52E-7	1.79E-5	8.25E-7	6.70E-6	2.25E-8	-5.92E-6	1.95E-5
NHWD	kg	1.24E-1	4.75E-2	3.47E-3	1.75E-1	2.00E-2	1.46E-1	8.18E-2	-2.93E-2	3.94E-1
RWD	kg	6.16E-5	4.91E-6	1.22E-6	6.77E-5	2.19E-6	1.35E-5	1.21E-7	-1.73E-5	6.62E-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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