

Environmental Profile

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

Ecochain v3.5.64



Product: 3079998 - AS+ Branch DN 70x50 45°
 Unit: 1 piece
 Manufacturer: Wavin Germany Twist
 Address: Industriestraße 20
 49767 Twist
 Germany
 Contact: <https://www.wavin.com/en-en>

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	6.33E-1	2.22E-2	2.96E-2	6.85E-1	9.28E-3	3.42E-1	2.00E-3	-3.55E-1	6.83E-1
GWP-f	kg CO2 eq	6.34E-1	2.22E-2	2.41E-2	6.80E-1	9.27E-3	3.17E-1	2.00E-3	-4.07E-1	6.02E-1
GWP-b	kg CO2 eq	-1.17E-3	1.02E-5	3.61E-3	2.45E-3	5.63E-6	2.46E-2	3.79E-6	5.26E-2	7.96E-2
GWP-luluc	kg CO2 eq	6.75E-4	8.13E-6	1.85E-3	2.53E-3	3.28E-6	7.62E-5	7.77E-8	-4.57E-4	2.16E-3
ODP	kg CFC11 eq	5.64E-8	4.90E-9	2.75E-9	6.41E-8	2.14E-9	1.83E-8	1.13E-10	-1.55E-8	6.91E-8
AP	mol H+ eq	2.86E-3	1.29E-4	1.16E-4	3.11E-3	5.28E-5	4.42E-4	2.69E-6	-1.41E-3	2.20E-3
EP-fw	kg P eq	1.84E-5	2.24E-7	3.67E-7	1.90E-5	7.63E-8	3.80E-6	3.53E-9	-9.28E-6	1.36E-5
EP-m	kg N eq	5.57E-4	4.53E-5	3.04E-5	6.33E-4	1.89E-5	1.17E-4	1.74E-6	-2.57E-4	5.13E-4
EP-T	mol N eq	6.20E-3	5.00E-4	3.22E-4	7.03E-3	2.08E-4	1.30E-3	1.09E-5	-2.88E-3	5.66E-3
POCP	kg NMVOC eq	2.11E-3	1.43E-4	9.22E-5	2.35E-3	5.95E-5	3.97E-4	3.52E-6	-1.20E-3	1.61E-3
ADP-mm	kg Sb eq	6.10E-5	5.62E-7	4.96E-7	6.21E-5	2.40E-7	1.55E-6	2.73E-9	-3.82E-6	6.01E-5
ADP-f	MJ	1.35E+1	3.35E-1	3.04E-1	1.42E+1	1.42E-1	1.34E+0	8.23E-3	-1.30E+1	2.64E+0
WDP	m3 depriv.	6.01E-1	1.20E-3	1.80E-1	7.82E-1	4.37E-4	3.04E-2	4.81E-5	-3.05E-1	5.08E-1
PM	disease inc.	2.72E-8	1.99E-9	1.57E-9	3.07E-8	8.37E-10	7.05E-9	5.66E-11	-1.49E-8	2.38E-8
IR	kBq U-235 eq	2.62E-2	1.40E-3	4.05E-4	2.80E-2	6.22E-4	4.76E-3	3.78E-5	-9.44E-3	2.40E-2
ETP-fw	CTUe	1.44E+2	2.98E-1	4.63E-1	1.45E+2	1.16E-1	3.22E+0	7.09E-3	-5.69E+0	1.42E+2
HTP-c	CTUh	2.59E-10	9.68E-12	1.98E-11	2.89E-10	4.11E-12	1.79E-10	2.03E-13	-9.90E-11	3.73E-10
HTP-nc	CTUh	6.72E-8	3.26E-10	4.88E-10	6.80E-8	1.38E-10	2.33E-9	4.17E-12	-3.02E-9	6.74E-8
SQP	Pt	4.02E+0	2.90E-1	2.95E-2	4.34E+0	1.22E-1	9.28E-1	2.11E-2	-1.00E+1	-4.61E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.99E-1	4.19E-3	9.98E-1	1.90E+0	2.04E-3	1.18E-1	3.07E-4	-1.92E+0	1.03E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.99E-1	4.19E-3	9.98E-1	1.90E+0	2.04E-3	1.18E-1	3.07E-4	-1.92E+0	1.03E-1
PENRE	MJ	1.45E+1	3.55E-1	3.31E-1	1.52E+1	1.51E-1	1.43E+0	8.73E-3	-1.40E+1	2.76E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.45E+1	3.55E-1	3.31E-1	1.52E+1	1.51E-1	1.43E+0	8.73E-3	-1.40E+1	2.76E+0
PET	MJ	1.54E+1	3.59E-1	1.33E+0	1.71E+1	1.53E-1	1.55E+0	9.04E-3	-1.59E+1	2.86E+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	1.38E-2	4.08E-5	4.25E-3	1.81E-2	1.61E-5	9.69E-4	1.01E-5	-5.43E-3	1.37E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.14E-6	8.48E-7	3.73E-7	8.36E-6	3.64E-7	2.99E-6	9.98E-9	-2.90E-6	8.82E-6
NHWD	kg	5.86E-2	2.12E-2	1.52E-3	8.14E-2	8.82E-3	6.50E-2	3.62E-2	-1.43E-2	1.77E-1
RWD	kg	2.90E-5	2.20E-6	5.35E-7	3.17E-5	9.68E-7	6.03E-6	5.36E-8	-8.64E-6	3.01E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777