

Environmental Profile

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

Ecochain v3.5.64



Product: 3079981 - AS+ Branch DN 100x100 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	2.10E+0	7.66E-2	1.04E-1	2.29E+0	3.21E-2	1.10E+0	6.64E-3	-1.22E+0	2.21E+0
GWP-f	kg CO2 eq	2.11E+0	7.66E-2	8.48E-2	2.27E+0	3.21E-2	1.03E+0	6.63E-3	-1.38E+0	1.96E+0
GWP-b	kg CO2 eq	-2.95E-3	3.53E-5	1.27E-2	9.79E-3	1.95E-5	7.43E-2	1.29E-5	1.57E-1	2.41E-1
GWP-luluc	kg CO2 eq	2.14E-3	2.81E-5	6.51E-3	8.68E-3	1.14E-5	2.66E-4	2.65E-7	-1.41E-3	7.55E-3
ODP	kg CFC11 eq	1.74E-7	1.69E-8	9.68E-9	2.01E-7	7.39E-9	6.37E-8	3.86E-10	-4.83E-8	2.24E-7
AP	mol H+ eq	9.38E-3	4.44E-4	4.08E-4	1.02E-2	1.83E-4	1.52E-3	9.20E-6	-4.76E-3	7.19E-3
EP-fw	kg P eq	5.98E-5	7.72E-7	1.29E-6	6.19E-5	2.64E-7	1.33E-5	1.21E-8	-3.00E-5	4.54E-5
EP-m	kg N eq	1.83E-3	1.56E-4	1.07E-4	2.09E-3	6.54E-5	4.01E-4	5.65E-6	-8.62E-4	1.70E-3
EP-T	mol N eq	2.04E-2	1.73E-3	1.13E-3	2.32E-2	7.20E-4	4.43E-3	3.74E-5	-9.64E-3	1.88E-2
POCP	kg NMVOC eq	6.89E-3	4.93E-4	3.24E-4	7.71E-3	2.06E-4	1.36E-3	1.20E-5	-4.07E-3	5.22E-3
ADP-mm	kg Sb eq	1.82E-4	1.94E-6	1.75E-6	1.86E-4	8.30E-7	5.35E-6	9.33E-9	-1.22E-5	1.80E-4
ADP-f	MJ	4.46E+1	1.15E+0	1.07E+0	4.68E+1	4.92E-1	4.67E+0	2.81E-2	-4.48E+1	7.24E+0
WDP	m3 depriv.	2.04E+0	4.13E-3	6.34E-1	2.68E+0	1.51E-3	1.05E-1	1.63E-4	-1.03E+0	1.76E+0
PM	disease inc.	8.70E-8	6.88E-9	5.53E-9	9.95E-8	2.90E-9	2.44E-8	1.94E-10	-4.94E-8	7.76E-8
IR	kBq U-235 eq	8.34E-2	4.84E-3	1.43E-3	8.97E-2	2.15E-3	1.65E-2	1.29E-4	-3.10E-2	7.75E-2
ETP-fw	CTUe	5.01E+2	1.03E+0	1.63E+0	5.03E+2	4.00E-1	1.11E+1	2.34E-2	-1.78E+1	4.97E+2
HTP-c	CTUh	8.48E-10	3.34E-11	6.98E-11	9.51E-10	1.42E-11	6.19E-10	6.93E-13	-3.27E-10	1.26E-9
HTP-nc	CTUh	2.35E-7	1.13E-9	1.72E-9	2.37E-7	4.77E-10	8.06E-9	1.40E-11	-9.98E-9	2.36E-7
SQP	Pt	1.25E+1	1.00E+0	1.04E-1	1.36E+1	4.21E-1	3.23E+0	7.22E-2	-3.02E+1	-1.29E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.82E+0	1.45E-2	3.51E+0	6.35E+0	7.06E-3	4.12E-1	1.05E-3	-5.84E+0	9.35E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.82E+0	1.45E-2	3.51E+0	6.35E+0	7.06E-3	4.12E-1	1.05E-3	-5.84E+0	9.35E-1
PENRE	MJ	4.77E+1	1.23E+0	1.16E+0	5.01E+1	5.23E-1	4.97E+0	2.99E-2	-4.81E+1	7.54E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.77E+1	1.23E+0	1.16E+0	5.01E+1	5.23E-1	4.97E+0	2.99E-2	-4.81E+1	7.54E+0
PET	MJ	5.06E+1	1.24E+0	4.67E+0	5.65E+1	5.30E-1	5.38E+0	3.09E-2	-5.39E+1	8.47E+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	4.67E-2	1.41E-4	1.49E-2	6.18E-2	5.57E-5	3.28E-3	3.45E-5	-1.79E-2	4.73E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.31E-5	2.93E-6	1.31E-6	2.73E-5	1.26E-6	1.03E-5	3.41E-8	-9.14E-6	2.98E-5
NHWD	kg	1.92E-1	7.32E-2	5.35E-3	2.71E-1	3.05E-2	2.24E-1	1.24E-1	-4.74E-2	6.02E-1
RWD	kg	9.05E-5	7.58E-6	1.88E-6	1.00E-4	3.35E-6	2.09E-5	1.83E-7	-2.81E-5	9.63E-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