

Environmental Profile

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

Ecochain v3.5.64



Product: 3079997 - AS+ Branch DN 50x50 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					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	4.25E-1	1.41E-2	1.76E-2	4.57E-1	5.70E-3	2.35E-1	1.27E-3	-2.08E-1	4.90E-1
GWP-f	kg CO2 eq	4.25E-1	1.41E-2	1.43E-2	4.53E-1	5.69E-3	2.07E-1	1.27E-3	-2.68E-1	3.99E-1
GWP-b	kg CO2 eq	-5.12E-4	6.51E-6	2.14E-3	1.64E-3	3.46E-6	2.76E-2	2.35E-6	6.08E-2	9.00E-2
GWP-luluc	kg CO2 eq	5.82E-4	5.17E-6	1.10E-3	1.69E-3	2.01E-6	4.71E-5	4.85E-8	-4.79E-4	1.26E-3
ODP	kg CFC11 eq	4.07E-8	3.11E-9	1.63E-9	4.54E-8	1.31E-9	1.15E-8	6.98E-11	-1.21E-8	4.62E-8
AP	mol H+ eq	1.97E-3	8.18E-5	6.89E-5	2.12E-3	3.24E-5	2.84E-4	1.67E-6	-9.96E-4	1.44E-3
EP-fw	kg P eq	1.35E-5	1.42E-7	2.18E-7	1.38E-5	4.68E-8	2.33E-6	2.20E-9	-8.16E-6	8.04E-6
EP-m	kg N eq	4.00E-4	2.88E-5	1.81E-5	4.47E-4	1.16E-5	7.71E-5	1.11E-6	-1.89E-4	3.47E-4
EP-T	mol N eq	4.38E-3	3.18E-4	1.91E-4	4.89E-3	1.28E-4	8.50E-4	6.77E-6	-2.13E-3	3.75E-3
POCP	kg NMVOC eq	1.44E-3	9.07E-5	5.48E-5	1.59E-3	3.65E-5	2.60E-4	2.19E-6	-8.23E-4	1.06E-3
ADP-mm	kg Sb eq	4.20E-5	3.57E-7	2.95E-7	4.27E-5	1.47E-7	1.00E-6	1.69E-9	-2.65E-6	4.12E-5
ADP-f	MJ	8.98E+0	2.13E-1	1.81E-1	9.37E+0	8.74E-2	8.43E-1	5.09E-3	-8.28E+0	2.02E+0
WDP	m3 depriv.	3.83E-1	7.61E-4	1.07E-1	4.91E-1	2.68E-4	1.88E-2	3.10E-5	-2.27E-1	2.82E-1
PM	disease inc.	1.97E-8	1.27E-9	9.34E-10	2.19E-8	5.14E-10	4.49E-9	3.51E-11	-1.18E-8	1.51E-8
IR	kBq U-235 eq	1.82E-2	8.91E-4	2.41E-4	1.94E-2	3.82E-4	3.00E-3	2.34E-5	-7.57E-3	1.52E-2
ETP-fw	CTUe	9.06E+1	1.90E-1	2.75E-1	9.11E+1	7.09E-2	2.01E+0	4.51E-3	-5.66E+0	8.75E+1
HTP-c	CTUh	1.80E-10	6.15E-12	1.18E-11	1.98E-10	2.52E-12	1.13E-10	1.27E-13	-7.74E-11	2.37E-10
HTP-nc	CTUh	4.11E-8	2.07E-10	2.90E-10	4.16E-8	8.46E-11	1.47E-9	2.62E-12	-2.41E-9	4.07E-8
SQP	Pt	3.68E+0	1.85E-1	1.75E-2	3.88E+0	7.47E-2	5.79E-1	1.31E-2	-1.13E+1	-6.72E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.03E-1	2.66E-3	5.93E-1	1.40E+0	1.25E-3	7.22E-2	1.90E-4	-2.11E+0	-6.34E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.03E-1	2.66E-3	5.93E-1	1.40E+0	1.25E-3	7.22E-2	1.90E-4	-2.11E+0	-6.34E-1
PENRE	MJ	9.61E+0	2.26E-1	1.97E-1	1.00E+1	9.27E-2	8.97E-1	5.41E-3	-8.90E+0	2.13E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.61E+0	2.26E-1	1.97E-1	1.00E+1	9.27E-2	8.97E-1	5.41E-3	-8.90E+0	2.13E+0
PET	MJ	1.04E+1	2.29E-1	7.90E-1	1.14E+1	9.40E-2	9.69E-1	5.60E-3	-1.10E+1	1.49E+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	8.98E-3	2.59E-5	2.52E-3	1.15E-2	9.89E-6	6.11E-4	6.25E-6	-4.39E-3	7.77E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.12E-6	5.39E-7	2.22E-7	5.88E-6	2.23E-7	1.89E-6	6.19E-9	-2.23E-6	5.76E-6
NHWD	kg	4.20E-2	1.35E-2	9.04E-4	5.64E-2	5.41E-3	4.09E-2	2.24E-2	-1.10E-2	1.14E-1
RWD	kg	2.03E-5	1.40E-6	3.18E-7	2.20E-5	5.94E-7	3.83E-6	3.32E-8	-7.02E-6	1.94E-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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