

Environmental Profile

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

Ecochain v3.5.64



Product: 3079959 - AS+ Bend DN 150 15°
 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	1.54E+0	5.43E-2	7.33E-2	1.66E+0	2.29E-2	8.29E-1	4.92E-3	-8.86E-1	1.63E+0
GWP-f	kg CO2 eq	1.54E+0	5.43E-2	5.97E-2	1.65E+0	2.29E-2	7.79E-1	4.91E-3	-9.90E-1	1.47E+0
GWP-b	kg CO2 eq	-3.19E-3	2.51E-5	8.95E-3	5.79E-3	1.39E-5	4.97E-2	9.36E-6	1.04E-1	1.60E-1
GWP-luluc	kg CO2 eq	1.52E-3	1.99E-5	4.59E-3	6.13E-3	8.11E-6	1.88E-4	1.91E-7	-9.51E-4	5.37E-3
ODP	kg CFC11 eq	1.36E-7	1.20E-8	6.82E-9	1.54E-7	5.28E-9	4.50E-8	2.78E-10	-3.62E-8	1.69E-7
AP	mol H+ eq	6.92E-3	3.15E-4	2.88E-4	7.52E-3	1.30E-4	1.08E-3	6.64E-6	-3.35E-3	5.38E-3
EP-fw	kg P eq	4.38E-5	5.48E-7	9.10E-7	4.52E-5	1.88E-7	9.39E-6	8.72E-9	-2.07E-5	3.41E-5
EP-m	kg N eq	1.33E-3	1.11E-4	7.55E-5	1.52E-3	4.67E-5	2.85E-4	4.28E-6	-6.08E-4	1.24E-3
EP-T	mol N eq	1.49E-2	1.22E-3	7.97E-4	1.69E-2	5.14E-4	3.15E-3	2.70E-5	-6.79E-3	1.38E-2
POCP	kg NMVOC eq	5.10E-3	3.49E-4	2.29E-4	5.68E-3	1.47E-4	9.66E-4	8.69E-6	-2.88E-3	3.92E-3
ADP-mm	kg Sb eq	1.50E-4	1.38E-6	1.23E-6	1.52E-4	5.93E-7	3.78E-6	6.74E-9	-9.25E-6	1.47E-4
ADP-f	MJ	3.30E+1	8.19E-1	7.53E-1	3.45E+1	3.52E-1	3.30E+0	2.03E-2	-3.19E+1	6.28E+0
WDP	m3 depriv.	1.47E+0	2.93E-3	4.47E-1	1.92E+0	1.08E-3	7.50E-2	1.18E-4	-7.18E-1	1.28E+0
PM	disease inc.	6.49E-8	4.88E-9	3.90E-9	7.37E-8	2.07E-9	1.72E-8	1.40E-10	-3.44E-8	5.87E-8
IR	kBq U-235 eq	6.35E-2	3.43E-3	1.01E-3	6.79E-2	1.54E-3	1.17E-2	9.34E-5	-2.17E-2	5.95E-2
ETP-fw	CTUe	3.53E+2	7.30E-1	1.15E+0	3.55E+2	2.85E-1	7.91E+0	1.75E-2	-1.21E+1	3.51E+2
HTP-c	CTUh	6.26E-10	2.37E-11	4.92E-11	6.98E-10	1.02E-11	4.38E-10	5.01E-13	-2.30E-10	9.17E-10
HTP-nc	CTUh	1.66E-7	7.99E-10	1.21E-9	1.68E-7	3.40E-10	5.72E-9	1.03E-11	-6.96E-9	1.67E-7
SQP	Pt	8.88E+0	7.10E-1	7.31E-2	9.66E+0	3.01E-1	2.28E+0	5.21E-2	-2.02E+1	-7.91E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.00E+0	1.03E-2	2.47E+0	4.49E+0	5.04E-3	2.91E-1	7.59E-4	-3.92E+0	8.71E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.00E+0	1.03E-2	2.47E+0	4.49E+0	5.04E-3	2.91E-1	7.59E-4	-3.92E+0	8.71E-1
PENRE	MJ	3.53E+1	8.69E-1	8.20E-1	3.70E+1	3.73E-1	3.51E+0	2.16E-2	-3.43E+1	6.56E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.53E+1	8.69E-1	8.20E-1	3.70E+1	3.73E-1	3.51E+0	2.16E-2	-3.43E+1	6.56E+0
PET	MJ	3.73E+1	8.80E-1	3.29E+0	4.15E+1	3.78E-1	3.80E+0	2.23E-2	-3.83E+1	7.43E+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	3.38E-2	9.97E-5	1.05E-2	4.44E-2	3.98E-5	2.38E-3	2.49E-5	-1.25E-2	3.44E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.71E-5	2.07E-6	9.25E-7	2.01E-5	8.99E-7	7.32E-6	2.46E-8	-6.82E-6	2.15E-5
NHWD	kg	1.40E-1	5.19E-2	3.77E-3	1.96E-1	2.18E-2	1.60E-1	8.95E-2	-3.32E-2	4.33E-1
RWD	kg	7.01E-5	5.38E-6	1.33E-6	7.68E-5	2.39E-6	1.48E-5	1.32E-7	-1.98E-5	7.42E-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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