

Environmental Profile

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

Ecochain v3.5.64



Product: 3079961 - AS+ Bend DN 150 45°
 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	1.87E+0	6.76E-2	9.22E-2	2.03E+0	2.87E-2	9.92E-1	6.04E-3	-1.11E+0	1.94E+0
GWP-f	kg CO2 eq	1.87E+0	6.75E-2	7.52E-2	2.01E+0	2.86E-2	9.41E-1	6.03E-3	-1.21E+0	1.78E+0
GWP-b	kg CO2 eq	-3.70E-3	3.12E-5	1.13E-2	7.59E-3	1.74E-5	5.03E-2	1.16E-5	1.04E-1	1.61E-1
GWP-luluc	kg CO2 eq	1.73E-3	2.47E-5	5.78E-3	7.53E-3	1.01E-5	2.35E-4	2.38E-7	-1.00E-3	6.77E-3
ODP	kg CFC11 eq	1.59E-7	1.49E-8	8.59E-9	1.82E-7	6.60E-9	5.61E-8	3.46E-10	-4.17E-8	2.03E-7
AP	mol H+ eq	8.35E-3	3.91E-4	3.62E-4	9.10E-3	1.63E-4	1.34E-3	8.26E-6	-4.07E-3	6.54E-3
EP-fw	kg P eq	5.20E-5	6.81E-7	1.15E-6	5.39E-5	2.36E-7	1.18E-5	1.08E-8	-2.36E-5	4.23E-5
EP-m	kg N eq	1.59E-3	1.38E-4	9.50E-5	1.82E-3	5.84E-5	3.52E-4	5.19E-6	-7.30E-4	1.51E-3
EP-T	mol N eq	1.79E-2	1.52E-3	1.00E-3	2.04E-2	6.43E-4	3.89E-3	3.36E-5	-8.15E-3	1.68E-2
POCP	kg NMVOC eq	6.15E-3	4.34E-4	2.88E-4	6.87E-3	1.84E-4	1.19E-3	1.08E-5	-3.52E-3	4.74E-3
ADP-mm	kg Sb eq	1.74E-4	1.71E-6	1.55E-6	1.77E-4	7.41E-7	4.69E-6	8.38E-9	-1.10E-5	1.72E-4
ADP-f	MJ	4.00E+1	1.02E+0	9.48E-1	4.20E+1	4.40E-1	4.12E+0	2.53E-2	-3.96E+1	6.93E+0
WDP	m3 depriv.	1.82E+0	3.64E-3	5.63E-1	2.39E+0	1.35E-3	9.37E-2	1.47E-4	-8.62E-1	1.62E+0
PM	disease inc.	7.69E-8	6.06E-9	4.91E-9	8.79E-8	2.59E-9	2.14E-8	1.74E-10	-4.06E-8	7.15E-8
IR	kBq U-235 eq	7.54E-2	4.27E-3	1.27E-3	8.09E-2	1.92E-3	1.45E-2	1.16E-4	-2.55E-2	7.21E-2
ETP-fw	CTUe	4.40E+2	9.08E-1	1.44E+0	4.43E+2	3.57E-1	9.85E+0	2.14E-2	-1.31E+1	4.40E+2
HTP-c	CTUh	7.54E-10	2.94E-11	6.19E-11	8.45E-10	1.27E-11	5.46E-10	6.23E-13	-2.71E-10	1.13E-9
HTP-nc	CTUh	2.08E-7	9.93E-10	1.52E-9	2.11E-7	4.26E-10	7.13E-9	1.27E-11	-8.18E-9	2.10E-7
SQP	Pt	9.83E+0	8.83E-1	9.20E-2	1.08E+1	3.76E-1	2.85E+0	6.48E-2	-2.04E+1	-6.31E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.25E+0	1.27E-2	3.11E+0	5.37E+0	6.31E-3	3.65E-1	9.41E-4	-4.02E+0	1.73E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.25E+0	1.27E-2	3.11E+0	5.37E+0	6.31E-3	3.65E-1	9.41E-4	-4.02E+0	1.73E+0
PENRE	MJ	4.29E+1	1.08E+0	1.03E+0	4.50E+1	4.67E-1	4.38E+0	2.68E-2	-4.26E+1	7.22E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.29E+1	1.08E+0	1.03E+0	4.50E+1	4.67E-1	4.38E+0	2.68E-2	-4.26E+1	7.22E+0
PET	MJ	4.51E+1	1.09E+0	4.15E+0	5.03E+1	4.73E-1	4.75E+0	2.78E-2	-4.66E+1	8.95E+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	4.16E-2	1.24E-4	1.33E-2	5.49E-2	4.98E-5	2.94E-3	3.10E-5	-1.46E-2	4.34E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.04E-5	2.58E-6	1.16E-6	2.41E-5	1.12E-6	9.11E-6	3.06E-8	-7.92E-6	2.65E-5
NHWD	kg	1.68E-1	6.46E-2	4.75E-3	2.37E-1	2.73E-2	1.99E-1	1.11E-1	-3.94E-2	5.35E-1
RWD	kg	8.26E-5	6.69E-6	1.67E-6	9.10E-5	2.99E-6	1.84E-5	1.64E-7	-2.31E-5	8.94E-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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