

Environmental Profile

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

Ecochain v3.5.64



Product: 3079974 - AS+ Bend DN 70 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	4.64E-1	1.68E-2	2.28E-2	5.03E-1	7.14E-3	2.45E-1	1.51E-3	-2.79E-1	4.78E-1
GWP-f	kg CO2 eq	4.64E-1	1.68E-2	1.86E-2	4.99E-1	7.14E-3	2.34E-1	1.51E-3	-3.01E-1	4.41E-1
GWP-b	kg CO2 eq	-9.80E-4	7.74E-6	2.78E-3	1.81E-3	4.33E-6	1.09E-2	2.89E-6	2.20E-2	3.47E-2
GWP-luluc	kg CO2 eq	4.11E-4	6.14E-6	1.43E-3	1.84E-3	2.53E-6	5.84E-5	5.95E-8	-2.23E-4	1.68E-3
ODP	kg CFC11 eq	3.91E-8	3.70E-9	2.12E-9	4.50E-8	1.64E-9	1.39E-8	8.63E-11	-1.02E-8	5.04E-8
AP	mol H+ eq	2.07E-3	9.73E-5	8.94E-5	2.26E-3	4.07E-5	3.32E-4	2.06E-6	-9.98E-4	1.64E-3
EP-fw	kg P eq	1.28E-5	1.69E-7	2.83E-7	1.32E-5	5.87E-8	2.92E-6	2.71E-9	-5.56E-6	1.06E-5
EP-m	kg N eq	3.91E-4	3.43E-5	2.35E-5	4.49E-4	1.45E-5	8.69E-5	1.29E-6	-1.78E-4	3.73E-4
EP-T	mol N eq	4.41E-3	3.78E-4	2.48E-4	5.03E-3	1.60E-4	9.61E-4	8.36E-6	-1.98E-3	4.18E-3
POCP	kg NMVOC eq	1.52E-3	1.08E-4	7.10E-5	1.70E-3	4.58E-5	2.95E-4	2.69E-6	-8.66E-4	1.18E-3
ADP-mm	kg Sb eq	4.33E-5	4.25E-7	3.82E-7	4.41E-5	1.85E-7	1.16E-6	2.09E-9	-2.71E-6	4.28E-5
ADP-f	MJ	9.96E+0	2.53E-1	2.34E-1	1.04E+1	1.10E-1	1.02E+0	6.30E-3	-9.85E+0	1.73E+0
WDP	m3 depriv.	4.53E-1	9.05E-4	1.39E-1	5.92E-1	3.36E-4	2.33E-2	3.74E-5	-2.09E-1	4.07E-1
PM	disease inc.	1.90E-8	1.51E-9	1.21E-9	2.17E-8	6.44E-10	5.31E-9	4.33E-11	-9.76E-9	1.79E-8
IR	kBq U-235 eq	1.86E-2	1.06E-3	3.12E-4	2.00E-2	4.79E-4	3.60E-3	2.89E-5	-6.11E-3	1.80E-2
ETP-fw	CTUe	1.09E+2	2.26E-1	3.57E-1	1.09E+2	8.90E-2	2.44E+0	5.32E-3	-2.98E+0	1.09E+2
HTP-c	CTUh	1.87E-10	7.31E-12	1.53E-11	2.10E-10	3.17E-12	1.36E-10	1.56E-13	-6.54E-11	2.83E-10
HTP-nc	CTUh	5.15E-8	2.47E-10	3.76E-10	5.22E-8	1.06E-10	1.77E-9	3.17E-12	-1.96E-9	5.21E-8
SQP	Pt	2.30E+0	2.19E-1	2.27E-2	2.55E+0	9.37E-2	7.08E-1	1.62E-2	-4.41E+0	-1.05E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.29E-1	3.17E-3	7.69E-1	1.30E+0	1.57E-3	9.06E-2	2.34E-4	-8.79E-1	5.15E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.29E-1	3.17E-3	7.69E-1	1.30E+0	1.57E-3	9.06E-2	2.34E-4	-8.79E-1	5.15E-1
PENRE	MJ	1.07E+1	2.69E-1	2.55E-1	1.12E+1	1.16E-1	1.09E+0	6.68E-3	-1.06E+1	1.80E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.07E+1	2.69E-1	2.55E-1	1.12E+1	1.16E-1	1.09E+0	6.68E-3	-1.06E+1	1.80E+0
PET	MJ	1.12E+1	2.72E-1	1.02E+0	1.25E+1	1.18E-1	1.18E+0	6.91E-3	-1.15E+1	2.31E+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	1.03E-2	3.08E-5	3.27E-3	1.36E-2	1.24E-5	7.30E-4	7.72E-6	-3.50E-3	1.09E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.03E-6	6.41E-7	2.88E-7	5.96E-6	2.80E-7	2.26E-6	7.64E-9	-1.93E-6	6.57E-6
NHWD	kg	4.14E-2	1.60E-2	1.17E-3	5.86E-2	6.79E-3	4.93E-2	2.77E-2	-9.53E-3	1.33E-1
RWD	kg	2.04E-5	1.66E-6	4.12E-7	2.25E-5	7.45E-7	4.55E-6	4.10E-8	-5.53E-6	2.23E-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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