

Environmental Profile

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

Ecochain v3.5.64



Product: 3079971 - AS+ Bend DN 70 30°
 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	3.62E-1	1.28E-2	1.70E-2	3.92E-1	5.40E-3	1.96E-1	1.17E-3	-2.11E-1	3.83E-1
GWP-f	kg CO2 eq	3.62E-1	1.28E-2	1.39E-2	3.89E-1	5.40E-3	1.85E-1	1.16E-3	-2.33E-1	3.48E-1
GWP-b	kg CO2 eq	-8.23E-4	5.91E-6	2.08E-3	1.26E-3	3.28E-6	1.07E-2	2.21E-6	2.23E-2	3.43E-2
GWP-luluc	kg CO2 eq	3.47E-4	4.69E-6	1.06E-3	1.42E-3	1.91E-6	4.42E-5	4.52E-8	-2.08E-4	1.25E-3
ODP	kg CFC11 eq	3.19E-8	2.82E-9	1.58E-9	3.63E-8	1.24E-9	1.06E-8	6.57E-11	-8.47E-9	3.97E-8
AP	mol H+ eq	1.63E-3	7.42E-5	6.67E-5	1.77E-3	3.08E-5	2.54E-4	1.57E-6	-7.80E-4	1.27E-3
EP-fw	kg P eq	1.02E-5	1.29E-7	2.11E-7	1.06E-5	4.44E-8	2.21E-6	2.06E-9	-4.69E-6	8.13E-6
EP-m	kg N eq	3.11E-4	2.62E-5	1.75E-5	3.54E-4	1.10E-5	6.69E-5	1.01E-6	-1.41E-4	2.92E-4
EP-T	mol N eq	3.48E-3	2.88E-4	1.85E-4	3.96E-3	1.21E-4	7.39E-4	6.37E-6	-1.57E-3	3.25E-3
POCP	kg NMVOC eq	1.20E-3	8.23E-5	5.30E-5	1.34E-3	3.47E-5	2.26E-4	2.05E-6	-6.72E-4	9.30E-4
ADP-mm	kg Sb eq	3.56E-5	3.24E-7	2.85E-7	3.62E-5	1.40E-7	8.85E-7	1.59E-9	-2.18E-6	3.50E-5
ADP-f	MJ	7.81E+0	1.93E-1	1.75E-1	8.18E+0	8.29E-2	7.75E-1	4.79E-3	-7.52E+0	1.52E+0
WDP	m3 depriv.	3.48E-1	6.90E-4	1.04E-1	4.52E-1	2.54E-4	1.77E-2	2.77E-5	-1.66E-1	3.04E-1
PM	disease inc.	1.52E-8	1.15E-9	9.05E-10	1.73E-8	4.87E-10	4.04E-9	3.30E-11	-7.90E-9	1.39E-8
IR	kBq U-235 eq	1.50E-2	8.09E-4	2.33E-4	1.60E-2	3.62E-4	2.74E-3	2.21E-5	-4.99E-3	1.41E-2
ETP-fw	CTUe	8.29E+1	1.72E-1	2.66E-1	8.33E+1	6.73E-2	1.86E+0	4.14E-3	-2.69E+0	8.25E+1
HTP-c	CTUh	1.47E-10	5.58E-12	1.14E-11	1.64E-10	2.40E-12	1.03E-10	1.18E-13	-5.28E-11	2.16E-10
HTP-nc	CTUh	3.90E-8	1.88E-10	2.81E-10	3.95E-8	8.02E-11	1.35E-9	2.43E-12	-1.59E-9	3.93E-8
SQP	Pt	2.01E+0	1.67E-1	1.70E-2	2.19E+0	7.09E-2	5.36E-1	1.23E-2	-4.35E+0	-1.54E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.55E-1	2.42E-3	5.74E-1	1.03E+0	1.19E-3	6.85E-2	1.79E-4	-8.48E-1	2.54E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.55E-1	2.42E-3	5.74E-1	1.03E+0	1.19E-3	6.85E-2	1.79E-4	-8.48E-1	2.54E-1
PENRE	MJ	8.36E+0	2.05E-1	1.90E-1	8.76E+0	8.80E-2	8.24E-1	5.09E-3	-8.09E+0	1.59E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.36E+0	2.05E-1	1.90E-1	8.76E+0	8.80E-2	8.24E-1	5.09E-3	-8.09E+0	1.59E+0
PET	MJ	8.82E+0	2.07E-1	7.64E-1	9.79E+0	8.92E-2	8.93E-1	5.27E-3	-8.93E+0	1.84E+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	7.96E-3	2.35E-5	2.44E-3	1.04E-2	9.38E-6	5.62E-4	5.89E-6	-2.85E-3	8.16E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.00E-6	4.89E-7	2.15E-7	4.70E-6	2.12E-7	1.72E-6	5.81E-9	-1.60E-6	5.04E-6
NHWD	kg	3.27E-2	1.22E-2	8.75E-4	4.58E-2	5.14E-3	3.76E-2	2.11E-2	-7.65E-3	1.02E-1
RWD	kg	1.65E-5	1.27E-6	3.08E-7	1.81E-5	5.64E-7	3.46E-6	3.12E-8	-4.55E-6	1.76E-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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