

Environmental Profile

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

Ecochain v3.5.64



Product: 3080026 - AS+ Longbend DN 100 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

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
 A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
 B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
 C4 Disposal

Benefits and loads beyond the system boundaries

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	1.90E+0	7.12E-2	9.82E-2	2.06E+0	3.01E-2	9.67E-1	6.07E-3	-1.15E+0	1.92E+0
GWP-f	kg CO2 eq	1.90E+0	7.11E-2	8.01E-2	2.05E+0	3.01E-2	9.16E-1	6.07E-3	-1.25E+0	1.75E+0
GWP-b	kg CO2 eq	-2.45E-3	3.28E-5	1.20E-2	9.58E-3	1.83E-5	5.05E-2	1.20E-5	1.03E-1	1.63E-1
GWP-luluc	kg CO2 eq	1.73E-3	2.61E-5	6.15E-3	7.91E-3	1.06E-5	2.50E-4	2.47E-7	-1.01E-3	7.15E-3
ODP	kg CFC11 eq	1.47E-7	1.57E-8	9.14E-9	1.72E-7	6.93E-9	5.94E-8	3.59E-10	-3.98E-8	1.99E-7
AP	mol H+ eq	8.35E-3	4.12E-4	3.85E-4	9.14E-3	1.71E-4	1.41E-3	8.55E-6	-4.27E-3	6.47E-3
EP-fw	kg P eq	5.20E-5	7.17E-7	1.22E-6	5.39E-5	2.48E-7	1.25E-5	1.12E-8	-2.44E-5	4.22E-5
EP-m	kg N eq	1.60E-3	1.45E-4	1.01E-4	1.85E-3	6.13E-5	3.68E-4	5.07E-6	-7.60E-4	1.52E-3
EP-T	mol N eq	1.80E-2	1.60E-3	1.07E-3	2.07E-2	6.76E-4	4.07E-3	3.48E-5	-8.48E-3	1.70E-2
POCP	kg NMVOC eq	6.11E-3	4.57E-4	3.06E-4	6.88E-3	1.93E-4	1.25E-3	1.11E-5	-3.69E-3	4.65E-3
ADP-mm	kg Sb eq	1.52E-4	1.80E-6	1.65E-6	1.55E-4	7.78E-7	4.96E-6	8.69E-9	-1.06E-5	1.50E-4
ADP-f	MJ	4.00E+1	1.07E+0	1.01E+0	4.21E+1	4.62E-1	4.36E+0	2.62E-2	-4.15E+1	5.43E+0
WDP	m3 depriv.	1.88E+0	3.84E-3	5.99E-1	2.48E+0	1.42E-3	9.86E-2	1.53E-4	-9.05E-1	1.68E+0
PM	disease inc.	7.52E-8	6.39E-9	5.23E-9	8.68E-8	2.72E-9	2.27E-8	1.80E-10	-4.23E-8	7.01E-8
IR	kBq U-235 eq	7.23E-2	4.49E-3	1.35E-3	7.82E-2	2.02E-3	1.54E-2	1.20E-4	-2.62E-2	6.95E-2
ETP-fw	CTUe	4.66E+2	9.56E-1	1.54E+0	4.69E+2	3.75E-1	1.03E+1	2.12E-2	-1.33E+1	4.66E+2
HTP-c	CTUh	7.53E-10	3.10E-11	6.59E-11	8.50E-10	1.33E-11	5.79E-10	6.44E-13	-2.81E-10	1.16E-9
HTP-nc	CTUh	2.20E-7	1.05E-9	1.62E-9	2.23E-7	4.47E-10	7.51E-9	1.29E-11	-8.50E-9	2.23E-7
SQP	Pt	9.67E+0	9.30E-1	9.80E-2	1.07E+1	3.95E-1	3.02E+0	6.72E-2	-2.04E+1	-6.26E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.23E+0	1.34E-2	3.32E+0	5.56E+0	6.62E-3	3.88E-1	9.69E-4	-4.05E+0	1.91E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.23E+0	1.34E-2	3.32E+0	5.56E+0	6.62E-3	3.88E-1	9.69E-4	-4.05E+0	1.91E+0
PENRE	MJ	4.29E+1	1.14E+0	1.10E+0	4.51E+1	4.90E-1	4.64E+0	2.78E-2	-4.46E+1	5.62E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.29E+1	1.14E+0	1.10E+0	4.51E+1	4.90E-1	4.64E+0	2.78E-2	-4.46E+1	5.62E+0
PET	MJ	4.51E+1	1.15E+0	4.42E+0	5.07E+1	4.97E-1	5.03E+0	2.88E-2	-4.87E+1	7.54E+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	4.27E-2	1.31E-4	1.41E-2	5.70E-2	5.23E-5	3.02E-3	3.21E-5	-1.52E-2	4.49E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.01E-5	2.72E-6	1.24E-6	2.41E-5	1.18E-6	9.61E-6	3.18E-8	-7.64E-6	2.73E-5
NHWD	kg	1.69E-1	6.80E-2	5.06E-3	2.42E-1	2.86E-2	2.09E-1	1.15E-1	-4.10E-2	5.54E-1
RWD	kg	7.74E-5	7.04E-6	1.78E-6	8.62E-5	3.14E-6	1.95E-5	1.70E-7	-2.36E-5	8.54E-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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