

# Environmental Profile

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

Ecochain v3.5.64



Product: 3080025 - AS+ Longsocket DN 90  
 Unit: 1 piece  
 Manufacturer: Wavin Germany Twist  
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 49767 Twist  
 Germany  
 Contact: <https://www.wavin.com/en-en>

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	☑	☑	☑	☑
<b>Product stage</b>					<b>Use stage</b>							<b>End-of-Life stage</b>				
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				
<b>Construction process stage</b>					<b>Benefits and loads beyond the system boundaries</b>											
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]

## Statement of Confidentiality

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	8.12E-1	2.85E-2	3.72E-2	8.78E-1	1.16E-2	4.30E-1	2.42E-3	-4.20E-1	9.02E-1
GWP-f	kg CO2 eq	8.12E-1	2.85E-2	3.03E-2	8.70E-1	1.16E-2	3.81E-1	2.42E-3	-5.26E-1	7.40E-1
GWP-b	kg CO2 eq	-4.99E-4	1.32E-5	4.54E-3	4.06E-3	7.03E-6	4.84E-2	4.68E-6	1.06E-1	1.59E-1
GWP-luluc	kg CO2 eq	1.06E-3	1.04E-5	2.33E-3	3.40E-3	4.10E-6	9.69E-5	9.61E-8	-8.53E-4	2.64E-3
ODP	kg CFC11 eq	7.05E-8	6.29E-9	3.46E-9	8.03E-8	2.67E-9	2.36E-8	1.39E-10	-2.14E-8	8.53E-8
AP	mol H+ eq	3.68E-3	1.65E-4	1.46E-4	3.99E-3	6.59E-5	5.73E-4	3.33E-6	-1.95E-3	2.68E-3
EP-fw	kg P eq	2.49E-5	2.88E-7	4.62E-7	2.57E-5	9.52E-8	4.83E-6	4.37E-9	-1.51E-5	1.55E-5
EP-m	kg N eq	7.49E-4	5.83E-5	3.83E-5	8.46E-4	2.36E-5	1.54E-4	2.07E-6	-3.65E-4	6.60E-4
EP-T	mol N eq	8.23E-3	6.42E-4	4.05E-4	9.28E-3	2.60E-4	1.70E-3	1.35E-5	-4.10E-3	7.14E-3
POCP	kg NMVOC eq	2.69E-3	1.83E-4	1.16E-4	2.99E-3	7.43E-5	5.20E-4	4.34E-6	-1.62E-3	1.97E-3
ADP-mm	kg Sb eq	6.90E-5	7.22E-7	6.25E-7	7.03E-5	2.99E-7	2.03E-6	3.38E-9	-4.78E-6	6.78E-5
ADP-f	MJ	1.69E+1	4.30E-1	3.83E-1	1.78E+1	1.78E-1	1.72E+0	1.02E-2	-1.66E+1	3.04E+0
WDP	m3 depriv.	7.56E-1	1.54E-3	2.27E-1	9.85E-1	5.45E-4	3.83E-2	5.99E-5	-4.41E-1	5.83E-1
PM	disease inc.	3.57E-8	2.56E-9	1.98E-9	4.03E-8	1.04E-9	9.15E-9	7.01E-11	-2.25E-8	2.80E-8
IR	kBq U-235 eq	3.28E-2	1.80E-3	5.10E-4	3.52E-2	7.77E-4	6.14E-3	4.68E-5	-1.42E-2	2.79E-2
ETP-fw	CTUe	1.86E+2	3.83E-1	5.83E-1	1.87E+2	1.44E-1	4.09E+0	8.54E-3	-1.02E+1	1.81E+2
HTP-c	CTUh	3.35E-10	1.24E-11	2.50E-11	3.72E-10	5.13E-12	2.30E-10	2.51E-13	-1.47E-10	4.61E-10
HTP-nc	CTUh	8.50E-8	4.19E-10	6.14E-10	8.60E-8	1.72E-10	2.98E-9	5.10E-12	-4.58E-9	8.46E-8
SQP	Pt	6.53E+0	3.73E-1	3.71E-2	6.94E+0	1.52E-1	1.19E+0	2.61E-2	-1.98E+1	-1.15E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.44E+0	5.38E-3	1.26E+0	2.70E+0	2.55E-3	1.50E-1	3.78E-4	-3.72E+0	-8.60E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.44E+0	5.38E-3	1.26E+0	2.70E+0	2.55E-3	1.50E-1	3.78E-4	-3.72E+0	-8.60E-1
PENRE	MJ	1.81E+1	4.57E-1	4.17E-1	1.90E+1	1.89E-1	1.83E+0	1.08E-2	-1.79E+1	3.18E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.81E+1	4.57E-1	4.17E-1	1.90E+1	1.89E-1	1.83E+0	1.08E-2	-1.79E+1	3.18E+0
PET	MJ	1.96E+1	4.62E-1	1.67E+0	2.17E+1	1.91E-1	1.98E+0	1.12E-2	-2.16E+1	2.32E+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	1.76E-2	5.24E-5	5.35E-3	2.30E-2	2.01E-5	1.21E-3	1.25E-5	-8.31E-3	1.59E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.38E-6	1.09E-6	4.70E-7	1.09E-5	4.54E-7	3.84E-6	1.24E-8	-3.98E-6	1.13E-5
NHWD	kg	7.86E-2	2.73E-2	1.91E-3	1.08E-1	1.10E-2	8.29E-2	4.48E-2	-2.10E-2	2.26E-1
RWD	kg	3.57E-5	2.82E-6	6.73E-7	3.92E-5	1.21E-6	7.81E-6	6.62E-8	-1.31E-5	3.52E-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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