

# Environmental Profile

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

Ecochain v3.5.64



Product: 3080105 - AS+ Socket Plug DN 150  
 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	9.45E-1	3.66E-2	5.09E-2	1.03E+0	1.55E-2	4.67E-1	3.03E-3	-5.91E-1	9.28E-1
GWP-f	kg CO2 eq	9.46E-1	3.66E-2	4.15E-2	1.02E+0	1.55E-2	4.45E-1	3.03E-3	-6.34E-1	8.53E-1
GWP-b	kg CO2 eq	-8.67E-4	1.69E-5	6.22E-3	5.37E-3	9.40E-6	2.20E-2	6.12E-6	4.38E-2	7.11E-2
GWP-luluc	kg CO2 eq	8.19E-4	1.34E-5	3.19E-3	4.02E-3	5.48E-6	1.29E-4	1.26E-7	-4.58E-4	3.70E-3
ODP	kg CFC11 eq	6.79E-8	8.07E-9	4.74E-9	8.07E-8	3.57E-9	3.06E-8	1.83E-10	-1.86E-8	9.65E-8
AP	mol H+ eq	4.11E-3	2.12E-4	2.00E-4	4.52E-3	8.82E-5	7.23E-4	4.36E-6	-2.16E-3	3.18E-3
EP-fw	kg P eq	2.53E-5	3.69E-7	6.32E-7	2.63E-5	1.27E-7	6.47E-6	5.72E-9	-1.18E-5	2.12E-5
EP-m	kg N eq	7.88E-4	7.48E-5	5.25E-5	9.15E-4	3.15E-5	1.88E-4	2.47E-6	-3.81E-4	7.56E-4
EP-T	mol N eq	8.88E-3	8.24E-4	5.54E-4	1.03E-2	3.48E-4	2.08E-3	1.77E-5	-4.24E-3	8.45E-3
POCP	kg NMVOC eq	3.00E-3	2.35E-4	1.59E-4	3.40E-3	9.94E-5	6.39E-4	5.66E-6	-1.87E-3	2.27E-3
ADP-mm	kg Sb eq	6.69E-5	9.27E-7	8.55E-7	6.87E-5	4.00E-7	2.55E-6	4.43E-9	-5.04E-6	6.66E-5
ADP-f	MJ	1.98E+1	5.52E-1	5.24E-1	2.09E+1	2.38E-1	2.25E+0	1.34E-2	-2.13E+1	2.12E+0
WDP	m3 depriv.	9.54E-1	1.97E-3	3.11E-1	1.27E+0	7.29E-4	5.08E-2	7.82E-5	-4.55E-1	8.63E-1
PM	disease inc.	3.62E-8	3.29E-9	2.71E-9	4.22E-8	1.40E-9	1.17E-8	9.19E-11	-2.10E-8	3.44E-8
IR	kBq U-235 eq	3.44E-2	2.31E-3	6.99E-4	3.75E-2	1.04E-3	7.95E-3	6.12E-5	-1.29E-2	3.36E-2
ETP-fw	CTUe	2.40E+2	4.92E-1	7.98E-1	2.42E+2	1.93E-1	5.30E+0	1.05E-2	-6.16E+0	2.41E+2
HTP-c	CTUh	3.70E-10	1.60E-11	3.42E-11	4.20E-10	6.87E-12	2.99E-10	3.28E-13	-1.39E-10	5.87E-10
HTP-nc	CTUh	1.14E-7	5.38E-10	8.41E-10	1.15E-7	2.30E-10	3.86E-9	6.48E-12	-4.20E-9	1.15E-7
SQP	Pt	4.45E+0	4.79E-1	5.08E-2	4.98E+0	2.03E-1	1.56E+0	3.43E-2	-8.85E+0	-2.08E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.04E+0	6.91E-3	1.72E+0	2.77E+0	3.41E-3	2.01E-1	4.92E-4	-1.78E+0	1.19E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.04E+0	6.91E-3	1.72E+0	2.77E+0	3.41E-3	2.01E-1	4.92E-4	-1.78E+0	1.19E+0
PENRE	MJ	2.12E+1	5.86E-1	5.70E-1	2.24E+1	2.52E-1	2.39E+0	1.42E-2	-2.29E+1	2.19E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.12E+1	5.86E-1	5.70E-1	2.24E+1	2.52E-1	2.39E+0	1.42E-2	-2.29E+1	2.19E+0
PET	MJ	2.23E+1	5.93E-1	2.29E+0	2.52E+1	2.56E-1	2.59E+0	1.47E-2	-2.46E+1	3.38E+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	2.16E-2	6.72E-5	7.32E-3	2.89E-2	2.69E-5	1.53E-3	1.64E-5	-7.50E-3	2.30E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	9.75E-6	1.40E-6	6.43E-7	1.18E-5	6.08E-7	4.94E-6	1.62E-8	-3.61E-6	1.37E-5
NHWD	kg	8.31E-2	3.50E-2	2.62E-3	1.21E-1	1.47E-2	1.07E-1	5.89E-2	-2.04E-2	2.81E-1
RWD	kg	3.62E-5	3.62E-6	9.21E-7	4.07E-5	1.62E-6	1.00E-5	8.69E-8	-1.15E-5	4.10E-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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