

# Environmental Profile

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

Ecochain v3.5.64



Product: 3080016 - AS+ Double Socket coupler DN 50  
 Unit: 1 piece  
 Manufacturer: Wavin Germany Twist  
 Address: Industriestraße 20  
 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	2.68E-1	8.46E-3	1.06E-2	2.87E-1	3.51E-3	1.56E-1	8.42E-4	-1.35E-1	3.12E-1
GWP-f	kg CO2 eq	2.69E-1	8.45E-3	8.65E-3	2.86E-1	3.51E-3	1.42E-1	8.41E-4	-1.65E-1	2.67E-1
GWP-b	kg CO2 eq	-7.44E-4	3.90E-6	1.30E-3	5.55E-4	2.13E-6	1.38E-2	1.48E-6	3.03E-2	4.47E-2
GWP-luluc	kg CO2 eq	3.31E-4	3.10E-6	6.64E-4	9.98E-4	1.24E-6	2.82E-5	3.06E-8	-2.45E-4	7.82E-4
ODP	kg CFC11 eq	2.82E-8	1.87E-9	9.87E-10	3.11E-8	8.08E-10	6.85E-9	4.39E-11	-7.67E-9	3.11E-8
AP	mol H+ eq	1.26E-3	4.90E-5	4.16E-5	1.35E-3	2.00E-5	1.70E-4	1.05E-6	-5.77E-4	9.66E-4
EP-fw	kg P eq	8.35E-6	8.53E-8	1.32E-7	8.57E-6	2.89E-8	1.40E-6	1.39E-9	-4.39E-6	5.60E-6
EP-m	kg N eq	2.47E-4	1.73E-5	1.09E-5	2.75E-4	7.15E-6	4.62E-5	7.67E-7	-1.09E-4	2.20E-4
EP-T	mol N eq	2.73E-3	1.90E-4	1.15E-4	3.03E-3	7.88E-5	5.10E-4	4.27E-6	-1.22E-3	2.40E-3
POCP	kg NMVOC eq	9.33E-4	5.44E-5	3.31E-5	1.02E-3	2.25E-5	1.55E-4	1.39E-6	-4.84E-4	7.16E-4
ADP-mm	kg Sb eq	3.24E-5	2.14E-7	1.78E-7	3.28E-5	9.07E-8	5.93E-7	1.07E-9	-1.78E-6	3.17E-5
ADP-f	MJ	5.84E+0	1.27E-1	1.09E-1	6.08E+0	5.38E-2	5.04E-1	3.21E-3	-5.05E+0	1.59E+0
WDP	m3 depriv.	2.40E-1	4.56E-4	6.47E-2	3.05E-1	1.65E-4	1.14E-2	1.95E-5	-1.28E-1	1.88E-1
PM	disease inc.	1.27E-8	7.59E-10	5.64E-10	1.40E-8	3.16E-10	2.67E-9	2.21E-11	-6.56E-9	1.04E-8
IR	kBq U-235 eq	1.24E-2	5.34E-4	1.45E-4	1.30E-2	2.35E-4	1.79E-3	1.48E-5	-4.26E-3	1.08E-2
ETP-fw	CTUe	5.39E+1	1.14E-1	1.66E-1	5.42E+1	4.37E-2	1.23E+0	3.04E-3	-2.95E+0	5.25E+1
HTP-c	CTUh	1.15E-10	3.69E-12	7.12E-12	1.26E-10	1.56E-12	6.77E-11	8.04E-14	-4.37E-11	1.52E-10
HTP-nc	CTUh	2.48E-8	1.24E-10	1.75E-10	2.50E-8	5.21E-11	8.87E-10	1.71E-12	-1.34E-9	2.46E-8
SQP	Pt	2.07E+0	1.11E-1	1.06E-2	2.19E+0	4.60E-2	3.47E-1	8.22E-3	-5.66E+0	-3.07E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.52E-1	1.60E-3	3.58E-1	8.12E-1	7.72E-4	4.33E-2	1.21E-4	-1.06E+0	-2.08E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.52E-1	1.60E-3	3.58E-1	8.12E-1	7.72E-4	4.33E-2	1.21E-4	-1.06E+0	-2.08E-1
PENRE	MJ	6.25E+0	1.35E-1	1.19E-1	6.50E+0	5.71E-2	5.36E-1	3.40E-3	-5.43E+0	1.67E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.25E+0	1.35E-1	1.19E-1	6.50E+0	5.71E-2	5.36E-1	3.40E-3	-5.43E+0	1.67E+0
PET	MJ	6.70E+0	1.37E-1	4.77E-1	7.32E+0	5.79E-2	5.80E-1	3.53E-3	-6.50E+0	1.46E+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	5.63E-3	1.55E-5	1.52E-3	7.17E-3	6.09E-6	3.88E-4	3.94E-6	-2.42E-3	5.14E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.28E-6	3.23E-7	1.34E-7	3.73E-6	1.38E-7	1.13E-6	3.90E-9	-1.41E-6	3.60E-6
NHWD	kg	2.61E-2	8.09E-3	5.46E-4	3.47E-2	3.34E-3	2.48E-2	1.41E-2	-6.20E-3	7.07E-2
RWD	kg	1.41E-5	8.37E-7	1.92E-7	1.52E-5	3.66E-7	2.27E-6	2.09E-8	-3.97E-6	1.38E-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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