

Environmental Profile

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

Ecochain v3.5.64



Product: 3080014 - AS+ Double Socket coupler DN 150
 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	1.49E+0	4.92E-2	6.58E-2	1.61E+0	2.13E-2	8.67E-1	5.04E-3	-8.73E-1	1.63E+0
GWP-f	kg CO2 eq	1.50E+0	4.92E-2	5.37E-2	1.60E+0	2.13E-2	8.40E-1	5.04E-3	-9.26E-1	1.54E+0
GWP-b	kg CO2 eq	-6.02E-3	2.27E-5	8.04E-3	2.04E-3	1.30E-5	2.70E-2	9.03E-6	5.34E-2	8.25E-2
GWP-luluc	kg CO2 eq	1.26E-3	1.80E-5	4.12E-3	5.40E-3	7.55E-6	1.69E-4	1.84E-7	-5.78E-4	5.00E-3
ODP	kg CFC11 eq	1.53E-7	1.08E-8	6.13E-9	1.70E-7	4.91E-9	4.02E-8	2.67E-10	-3.64E-8	1.79E-7
AP	mol H+ eq	6.87E-3	2.85E-4	2.58E-4	7.42E-3	1.21E-4	9.77E-4	6.39E-6	-2.89E-3	5.63E-3
EP-fw	kg P eq	4.18E-5	4.96E-7	8.17E-7	4.31E-5	1.75E-7	8.44E-6	8.40E-9	-1.54E-5	3.64E-5
EP-m	kg N eq	1.26E-3	1.00E-4	6.78E-5	1.43E-3	4.35E-5	2.58E-4	4.63E-6	-5.19E-4	1.21E-3
EP-T	mol N eq	1.42E-2	1.11E-3	7.16E-4	1.61E-2	4.79E-4	2.85E-3	2.59E-5	-5.78E-3	1.36E-2
POCP	kg NMVOC eq	5.13E-3	3.16E-4	2.05E-4	5.65E-3	1.37E-4	8.69E-4	8.42E-6	-2.53E-3	4.13E-3
ADP-mm	kg Sb eq	1.91E-4	1.25E-6	1.10E-6	1.93E-4	5.52E-7	3.35E-6	6.47E-9	-9.95E-6	1.87E-4
ADP-f	MJ	3.33E+1	7.41E-1	6.77E-1	3.47E+1	3.27E-1	2.96E+0	1.95E-2	-2.94E+1	8.62E+0
WDP	m3 depriv.	1.40E+0	2.65E-3	4.01E-1	1.81E+0	1.00E-3	6.90E-2	1.12E-4	-5.92E-1	1.29E+0
PM	disease inc.	6.56E-8	4.41E-9	3.50E-9	7.36E-8	1.93E-9	1.54E-8	1.34E-10	-2.76E-8	6.34E-8
IR	kBq U-235 eq	6.82E-2	3.11E-3	9.03E-4	7.22E-2	1.43E-3	1.04E-2	9.00E-5	-1.78E-2	6.64E-2
ETP-fw	CTUe	3.16E+2	6.61E-1	1.03E+0	3.17E+2	2.66E-1	7.29E+0	1.83E-2	-8.00E+0	3.17E+2
HTP-c	CTUh	6.21E-10	2.14E-11	4.42E-11	6.87E-10	9.46E-12	3.91E-10	4.84E-13	-1.89E-10	8.98E-10
HTP-nc	CTUh	1.51E-7	7.23E-10	1.09E-9	1.52E-7	3.17E-10	5.19E-9	1.03E-11	-5.56E-9	1.52E-7
SQP	Pt	7.23E+0	6.43E-1	6.57E-2	7.93E+0	2.80E-1	2.05E+0	5.00E-2	-1.10E+1	-6.43E-1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.63E+0	9.28E-3	2.22E+0	3.86E+0	4.70E-3	2.62E-1	7.40E-4	-2.21E+0	1.92E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.63E+0	9.28E-3	2.22E+0	3.86E+0	4.70E-3	2.62E-1	7.40E-4	-2.21E+0	1.92E+0
PENRE	MJ	3.56E+1	7.87E-1	7.37E-1	3.71E+1	3.48E-1	3.15E+0	2.07E-2	-3.16E+1	9.01E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.56E+1	7.87E-1	7.37E-1	3.71E+1	3.48E-1	3.15E+0	2.07E-2	-3.16E+1	9.01E+0
PET	MJ	3.72E+1	7.96E-1	2.96E+0	4.10E+1	3.52E-1	3.41E+0	2.14E-2	-3.38E+1	1.09E+1
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	3.23E-2	9.03E-5	9.46E-3	4.18E-2	3.70E-5	2.32E-3	2.40E-5	-9.82E-3	3.44E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.71E-5	1.88E-6	8.31E-7	1.98E-5	8.37E-7	6.62E-6	2.36E-8	-6.78E-6	2.05E-5
NHWD	kg	1.33E-1	4.70E-2	3.39E-3	1.84E-1	2.03E-2	1.46E-1	8.59E-2	-2.73E-2	4.08E-1
RWD	kg	7.86E-5	4.87E-6	1.19E-6	8.46E-5	2.23E-6	1.31E-5	1.27E-7	-1.64E-5	8.37E-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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