

Environmental Profile

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

Ecochain v3.5.64



Product: 3080018 - AS+ Double Socket coupler DN 90
 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	5.45E-1	1.79E-2	2.36E-2	5.87E-1	7.68E-3	3.16E-1	1.81E-3	-3.09E-1	6.03E-1
GWP-f	kg CO2 eq	5.47E-1	1.79E-2	1.93E-2	5.84E-1	7.67E-3	3.02E-1	1.81E-3	-3.39E-1	5.56E-1
GWP-b	kg CO2 eq	-2.01E-3	8.24E-6	2.89E-3	8.86E-4	4.66E-6	1.43E-2	3.24E-6	2.97E-2	4.49E-2
GWP-luluc	kg CO2 eq	5.12E-4	6.54E-6	1.48E-3	2.00E-3	2.71E-6	6.12E-5	6.63E-8	-2.81E-4	1.78E-3
ODP	kg CFC11 eq	5.58E-8	3.94E-9	2.20E-9	6.20E-8	1.77E-9	1.46E-8	9.59E-11	-1.38E-8	6.47E-8
AP	mol H+ eq	2.52E-3	1.04E-4	9.28E-5	2.72E-3	4.37E-5	3.57E-4	2.30E-6	-1.09E-3	2.03E-3
EP-fw	kg P eq	1.57E-5	1.80E-7	2.94E-7	1.62E-5	6.31E-8	3.05E-6	3.02E-9	-6.44E-6	1.28E-5
EP-m	kg N eq	4.70E-4	3.65E-5	2.44E-5	5.31E-4	1.56E-5	9.47E-5	1.66E-6	-1.98E-4	4.45E-4
EP-T	mol N eq	5.29E-3	4.02E-4	2.57E-4	5.95E-3	1.72E-4	1.05E-3	9.31E-6	-2.21E-3	4.96E-3
POCP	kg NMVOC eq	1.88E-3	1.15E-4	7.38E-5	2.07E-3	4.93E-5	3.19E-4	3.02E-6	-9.44E-4	1.49E-3
ADP-mm	kg Sb eq	6.81E-5	4.52E-7	3.97E-7	6.89E-5	1.98E-7	1.23E-6	2.32E-9	-3.61E-6	6.67E-5
ADP-f	MJ	1.21E+1	2.69E-1	2.43E-1	1.26E+1	1.18E-1	1.07E+0	7.00E-3	-1.07E+1	3.12E+0
WDP	m3 depriv.	5.08E-1	9.63E-4	1.44E-1	6.54E-1	3.61E-4	2.49E-2	4.07E-5	-2.29E-1	4.50E-1
PM	disease inc.	2.43E-8	1.60E-9	1.26E-9	2.72E-8	6.92E-10	5.60E-9	4.82E-11	-1.09E-8	2.26E-8
IR	kBq U-235 eq	2.49E-2	1.13E-3	3.24E-4	2.63E-2	5.15E-4	3.79E-3	3.23E-5	-7.04E-3	2.36E-2
ETP-fw	CTUe	1.15E+2	2.40E-1	3.70E-1	1.15E+2	9.56E-2	2.64E+0	6.56E-3	-3.67E+0	1.15E+2
HTP-c	CTUh	2.28E-10	7.79E-12	1.59E-11	2.52E-10	3.40E-12	1.42E-10	1.74E-13	-7.41E-11	3.24E-10
HTP-nc	CTUh	5.43E-8	2.63E-10	3.90E-10	5.49E-8	1.14E-10	1.89E-9	3.69E-12	-2.21E-9	5.47E-8
SQP	Pt	3.02E+0	2.34E-1	2.36E-2	3.27E+0	1.01E-1	7.42E-1	1.80E-2	-5.82E+0	-1.69E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.74E-1	3.37E-3	7.98E-1	1.48E+0	1.69E-3	9.46E-2	2.65E-4	-1.14E+0	4.35E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.74E-1	3.37E-3	7.98E-1	1.48E+0	1.69E-3	9.46E-2	2.65E-4	-1.14E+0	4.35E-1
PENRE	MJ	1.29E+1	2.86E-1	2.65E-1	1.35E+1	1.25E-1	1.14E+0	7.43E-3	-1.15E+1	3.26E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.29E+1	2.86E-1	2.65E-1	1.35E+1	1.25E-1	1.14E+0	7.43E-3	-1.15E+1	3.26E+0
PET	MJ	1.36E+1	2.89E-1	1.06E+0	1.50E+1	1.27E-1	1.24E+0	7.70E-3	-1.26E+1	3.70E+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	1.18E-2	3.28E-5	3.40E-3	1.52E-2	1.33E-5	8.35E-4	8.61E-6	-3.93E-3	1.21E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.34E-6	6.83E-7	2.99E-7	7.32E-6	3.01E-7	2.41E-6	8.49E-9	-2.56E-6	7.47E-6
NHWD	kg	4.98E-2	1.71E-2	1.22E-3	6.81E-2	7.30E-3	5.29E-2	3.08E-2	-1.07E-2	1.48E-1
RWD	kg	2.85E-5	1.77E-6	4.28E-7	3.07E-5	8.01E-7	4.79E-6	4.56E-8	-6.52E-6	2.99E-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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