

Environmental Profile

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

Ecochain v3.5.64



Product: 3080012 - AS+ Double Socket coupler DN 100
 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
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 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	7.52E-1	2.51E-2	3.33E-2	8.10E-1	1.07E-2	4.29E-1	2.47E-3	-4.27E-1	8.26E-1
GWP-f	kg CO2 eq	7.54E-1	2.51E-2	2.71E-2	8.06E-1	1.07E-2	4.08E-1	2.47E-3	-4.71E-1	7.56E-1
GWP-b	kg CO2 eq	-2.46E-3	1.16E-5	4.07E-3	1.62E-3	6.50E-6	2.14E-2	4.49E-6	4.47E-2	6.77E-2
GWP-luluc	kg CO2 eq	7.20E-4	9.20E-6	2.08E-3	2.81E-3	3.79E-6	8.59E-5	9.17E-8	-4.15E-4	2.49E-3
ODP	kg CFC11 eq	7.45E-8	5.54E-9	3.10E-9	8.31E-8	2.47E-9	2.06E-8	1.33E-10	-1.88E-8	8.75E-8
AP	mol H+ eq	3.45E-3	1.46E-4	1.31E-4	3.73E-3	6.10E-5	5.00E-4	3.18E-6	-1.54E-3	2.76E-3
EP-fw	kg P eq	2.16E-5	2.53E-7	4.13E-7	2.23E-5	8.81E-8	4.29E-6	4.17E-9	-9.28E-6	1.74E-5
EP-m	kg N eq	6.50E-4	5.13E-5	3.43E-5	7.35E-4	2.18E-5	1.33E-4	2.24E-6	-2.80E-4	6.12E-4
EP-T	mol N eq	7.29E-3	5.66E-4	3.62E-4	8.22E-3	2.40E-4	1.47E-3	1.29E-5	-3.12E-3	6.82E-3
POCP	kg NMVOC eq	2.57E-3	1.62E-4	1.04E-4	2.83E-3	6.87E-5	4.47E-4	4.18E-6	-1.33E-3	2.03E-3
ADP-mm	kg Sb eq	8.89E-5	6.36E-7	5.59E-7	9.01E-5	2.77E-7	1.73E-6	3.22E-9	-4.89E-6	8.72E-5
ADP-f	MJ	1.65E+1	3.79E-1	3.42E-1	1.73E+1	1.64E-1	1.51E+0	9.71E-3	-1.49E+1	4.04E+0
WDP	m3 depriv.	7.05E-1	1.35E-3	2.03E-1	9.09E-1	5.04E-4	3.48E-2	5.59E-5	-3.25E-1	6.20E-1
PM	disease inc.	3.32E-8	2.25E-9	1.77E-9	3.72E-8	9.66E-10	7.88E-9	6.68E-11	-1.56E-8	3.05E-8
IR	kBq U-235 eq	3.35E-2	1.59E-3	4.57E-4	3.56E-2	7.18E-4	5.33E-3	4.48E-5	-9.99E-3	3.17E-2
ETP-fw	CTUe	1.62E+2	3.38E-1	5.21E-1	1.62E+2	1.33E-1	3.69E+0	8.92E-3	-5.37E+0	1.61E+2
HTP-c	CTUh	3.12E-10	1.10E-11	2.23E-11	3.46E-10	4.75E-12	2.00E-10	2.40E-13	-1.05E-10	4.45E-10
HTP-nc	CTUh	7.62E-8	3.69E-10	5.49E-10	7.71E-8	1.59E-10	2.64E-9	5.07E-12	-3.15E-9	7.68E-8
SQP	Pt	4.25E+0	3.29E-1	3.32E-2	4.61E+0	1.41E-1	1.04E+0	2.49E-2	-8.70E+0	-2.88E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.50E-1	4.74E-3	1.12E+0	2.08E+0	2.36E-3	1.33E-1	3.67E-4	-1.69E+0	5.23E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.50E-1	4.74E-3	1.12E+0	2.08E+0	2.36E-3	1.33E-1	3.67E-4	-1.69E+0	5.23E-1
PENRE	MJ	1.77E+1	4.02E-1	3.73E-1	1.85E+1	1.74E-1	1.61E+0	1.03E-2	-1.60E+1	4.23E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.77E+1	4.02E-1	3.73E-1	1.85E+1	1.74E-1	1.61E+0	1.03E-2	-1.60E+1	4.23E+0
PET	MJ	1.87E+1	4.07E-1	1.50E+0	2.06E+1	1.77E-1	1.74E+0	1.07E-2	-1.77E+1	4.75E+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	1.63E-2	4.61E-5	4.78E-3	2.11E-2	1.86E-5	1.15E-3	1.19E-5	-5.62E-3	1.67E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.65E-6	9.60E-7	4.20E-7	1.00E-5	4.20E-7	3.38E-6	1.18E-8	-3.51E-6	1.03E-5
NHWD	kg	6.86E-2	2.40E-2	1.71E-3	9.43E-2	1.02E-2	7.40E-2	4.27E-2	-1.51E-2	2.06E-1
RWD	kg	3.82E-5	2.49E-6	6.02E-7	4.13E-5	1.12E-6	6.74E-6	6.32E-8	-9.23E-6	4.00E-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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