

Environmental Profile

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

Ecochain v3.5.64



Product: 3080108 - AS+ Socket Plug DN 90
 Unit: 1 piece
 Manufacturer: Wavin Germany Twist
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 49767 Twist
 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	3.13E-1	1.18E-2	1.58E-2	3.41E-1	4.85E-3	1.56E-1	9.59E-4	-1.79E-1	3.25E-1
GWP-f	kg CO2 eq	3.13E-1	1.18E-2	1.29E-2	3.38E-1	4.84E-3	1.42E-1	9.58E-4	-2.09E-1	2.78E-1
GWP-b	kg CO2 eq	-7.76E-5	5.45E-6	1.93E-3	1.86E-3	2.94E-6	1.40E-2	1.91E-6	3.01E-2	4.59E-2
GWP-luluc	kg CO2 eq	3.49E-4	4.32E-6	9.91E-4	1.34E-3	1.71E-6	4.08E-5	3.94E-8	-2.57E-4	1.13E-3
ODP	kg CFC11 eq	2.34E-8	2.61E-9	1.47E-9	2.75E-8	1.12E-9	9.77E-9	5.73E-11	-7.12E-9	3.13E-8
AP	mol H+ eq	1.38E-3	6.85E-5	6.21E-5	1.51E-3	2.76E-5	2.34E-4	1.36E-6	-7.53E-4	1.02E-3
EP-fw	kg P eq	9.02E-6	1.19E-7	1.96E-7	9.34E-6	3.99E-8	2.03E-6	1.79E-9	-5.10E-6	6.31E-6
EP-m	kg N eq	2.76E-4	2.41E-5	1.63E-5	3.17E-4	9.87E-6	6.17E-5	7.77E-7	-1.37E-4	2.52E-4
EP-T	mol N eq	3.07E-3	2.66E-4	1.72E-4	3.50E-3	1.09E-4	6.81E-4	5.55E-6	-1.54E-3	2.76E-3
POCP	kg NMVOC eq	1.01E-3	7.59E-5	4.94E-5	1.13E-3	3.11E-5	2.10E-4	1.77E-6	-6.37E-4	7.37E-4
ADP-mm	kg Sb eq	2.15E-5	2.99E-7	2.66E-7	2.20E-5	1.25E-7	8.30E-7	1.39E-9	-1.68E-6	2.13E-5
ADP-f	MJ	6.50E+0	1.78E-1	1.63E-1	6.84E+0	7.43E-2	7.17E-1	4.18E-3	-6.82E+0	8.16E-1
WDP	m3 depriv.	3.05E-1	6.37E-4	9.65E-2	4.02E-1	2.28E-4	1.60E-2	2.48E-5	-1.66E-1	2.53E-1
PM	disease inc.	1.27E-8	1.06E-9	8.42E-10	1.46E-8	4.37E-10	3.77E-9	2.88E-11	-8.11E-9	1.07E-8
IR	kBq U-235 eq	1.16E-2	7.46E-4	2.17E-4	1.26E-2	3.25E-4	2.55E-3	1.92E-5	-5.04E-3	1.04E-2
ETP-fw	CTUe	7.67E+1	1.59E-1	2.48E-1	7.71E+1	6.04E-2	1.68E+0	3.30E-3	-3.17E+0	7.57E+1
HTP-c	CTUh	1.25E-10	5.15E-12	1.06E-11	1.41E-10	2.15E-12	9.59E-11	1.03E-13	-5.31E-11	1.86E-10
HTP-nc	CTUh	3.56E-8	1.74E-10	2.61E-10	3.61E-8	7.20E-11	1.23E-9	2.04E-12	-1.64E-9	3.57E-8
SQP	Pt	2.06E+0	1.54E-1	1.58E-2	2.23E+0	6.36E-2	4.97E-1	1.07E-2	-5.70E+0	-2.90E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.66E-1	2.23E-3	5.34E-1	1.00E+0	1.07E-3	6.30E-2	1.54E-4	-1.09E+0	-2.29E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.66E-1	2.23E-3	5.34E-1	1.00E+0	1.07E-3	6.30E-2	1.54E-4	-1.09E+0	-2.29E-2
PENRE	MJ	6.97E+0	1.89E-1	1.77E-1	7.33E+0	7.89E-2	7.63E-1	4.43E-3	-7.33E+0	8.49E-1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.97E+0	1.89E-1	1.77E-1	7.33E+0	7.89E-2	7.63E-1	4.43E-3	-7.33E+0	8.49E-1
PET	MJ	7.43E+0	1.91E-1	7.11E-1	8.34E+0	8.00E-2	8.26E-1	4.59E-3	-8.42E+0	8.26E-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	6.98E-3	2.17E-5	2.27E-3	9.27E-3	8.41E-6	4.83E-4	5.13E-6	-2.96E-3	6.81E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.38E-6	4.51E-7	2.00E-7	4.03E-6	1.90E-7	1.58E-6	5.07E-9	-1.36E-6	4.45E-6
NHWD	kg	2.90E-2	1.13E-2	8.14E-4	4.11E-2	4.61E-3	3.42E-2	1.84E-2	-7.68E-3	9.07E-2
RWD	kg	1.22E-5	1.17E-6	2.86E-7	1.36E-5	5.06E-7	3.23E-6	2.72E-8	-4.56E-6	1.28E-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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