

Environmental Profile

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

Ecochain v3.5.64



Product: 3080088 - AS+ Repaircoupler 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	7.48E-1	2.49E-2	3.30E-2	8.05E-1	1.06E-2	4.27E-1	2.45E-3	-4.24E-1	8.22E-1
GWP-f	kg CO2 eq	7.49E-1	2.49E-2	2.69E-2	8.01E-1	1.06E-2	4.06E-1	2.45E-3	-4.68E-1	7.52E-1
GWP-b	kg CO2 eq	-2.46E-3	1.15E-5	4.03E-3	1.58E-3	6.45E-6	2.13E-2	4.46E-6	4.47E-2	6.76E-2
GWP-luluc	kg CO2 eq	7.18E-4	9.13E-6	2.07E-3	2.80E-3	3.76E-6	8.53E-5	9.10E-8	-4.14E-4	2.47E-3
ODP	kg CFC11 eq	7.43E-8	5.50E-9	3.07E-9	8.29E-8	2.45E-9	2.04E-8	1.32E-10	-1.87E-8	8.71E-8
AP	mol H+ eq	3.44E-3	1.44E-4	1.30E-4	3.71E-3	6.05E-5	4.96E-4	3.16E-6	-1.53E-3	2.74E-3
EP-fw	kg P eq	2.15E-5	2.51E-7	4.10E-7	2.22E-5	8.74E-8	4.25E-6	4.15E-9	-9.24E-6	1.73E-5
EP-m	kg N eq	6.46E-4	5.09E-5	3.40E-5	7.31E-4	2.16E-5	1.32E-4	2.23E-6	-2.78E-4	6.09E-4
EP-T	mol N eq	7.26E-3	5.61E-4	3.59E-4	8.18E-3	2.39E-4	1.46E-3	1.28E-5	-3.11E-3	6.78E-3
POCP	kg NMVOC eq	2.56E-3	1.60E-4	1.03E-4	2.82E-3	6.82E-5	4.44E-4	4.15E-6	-1.32E-3	2.02E-3
ADP-mm	kg Sb eq	8.88E-5	6.31E-7	5.55E-7	9.00E-5	2.75E-7	1.71E-6	3.20E-9	-4.86E-6	8.71E-5
ADP-f	MJ	1.65E+1	3.76E-1	3.40E-1	1.72E+1	1.63E-1	1.50E+0	9.64E-3	-1.48E+1	4.03E+0
WDP	m3 depriv.	7.00E-1	1.34E-3	2.01E-1	9.03E-1	5.00E-4	3.46E-2	5.56E-5	-3.23E-1	6.15E-1
PM	disease inc.	3.30E-8	2.24E-9	1.76E-9	3.70E-8	9.59E-10	7.83E-9	6.63E-11	-1.55E-8	3.04E-8
IR	kBq U-235 eq	3.34E-2	1.57E-3	4.53E-4	3.55E-2	7.13E-4	5.29E-3	4.44E-5	-9.94E-3	3.16E-2
ETP-fw	CTUe	1.60E+2	3.35E-1	5.17E-1	1.61E+2	1.32E-1	3.66E+0	8.87E-3	-5.35E+0	1.60E+2
HTP-c	CTUh	3.11E-10	1.09E-11	2.22E-11	3.44E-10	4.71E-12	1.98E-10	2.39E-13	-1.05E-10	4.43E-10
HTP-nc	CTUh	7.56E-8	3.66E-10	5.45E-10	7.65E-8	1.58E-10	2.62E-9	5.04E-12	-3.13E-9	7.62E-8
SQP	Pt	4.24E+0	3.26E-1	3.30E-2	4.60E+0	1.39E-1	1.04E+0	2.47E-2	-8.70E+0	-2.90E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.48E-1	4.70E-3	1.12E+0	2.07E+0	2.34E-3	1.32E-1	3.64E-4	-1.69E+0	5.12E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.48E-1	4.70E-3	1.12E+0	2.07E+0	2.34E-3	1.32E-1	3.64E-4	-1.69E+0	5.12E-1
PENRE	MJ	1.76E+1	3.99E-1	3.70E-1	1.84E+1	1.73E-1	1.60E+0	1.02E-2	-1.59E+1	4.22E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.76E+1	3.99E-1	3.70E-1	1.84E+1	1.73E-1	1.60E+0	1.02E-2	-1.59E+1	4.22E+0
PET	MJ	1.86E+1	4.03E-1	1.49E+0	2.04E+1	1.75E-1	1.73E+0	1.06E-2	-1.76E+1	4.73E+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	1.62E-2	4.57E-5	4.75E-3	2.09E-2	1.85E-5	1.15E-3	1.18E-5	-5.59E-3	1.65E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.62E-6	9.52E-7	4.17E-7	9.99E-6	4.17E-7	3.35E-6	1.17E-8	-3.49E-6	1.03E-5
NHWD	kg	6.82E-2	2.38E-2	1.70E-3	9.38E-2	1.01E-2	7.34E-2	4.24E-2	-1.51E-2	2.05E-1
RWD	kg	3.81E-5	2.47E-6	5.98E-7	4.11E-5	1.11E-6	6.69E-6	6.28E-8	-9.18E-6	3.98E-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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