

Environmental Profile

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

Ecochain v3.5.64



Product: 3080094 - AS+ Repaircoupler 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					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage					Benefits and loads beyond the system boundaries											
A4 Transport gate to site A5 Assembly / Construction installation process					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	5.41E-1	1.77E-2	2.33E-2	5.82E-1	7.60E-3	3.14E-1	1.79E-3	-3.06E-1	5.99E-1
GWP-f	kg CO2 eq	5.43E-1	1.77E-2	1.90E-2	5.79E-1	7.59E-3	2.99E-1	1.79E-3	-3.36E-1	5.52E-1
GWP-b	kg CO2 eq	-2.01E-3	8.15E-6	2.85E-3	8.41E-4	4.61E-6	1.43E-2	3.21E-6	2.97E-2	4.49E-2
GWP-luluc	kg CO2 eq	5.09E-4	6.47E-6	1.46E-3	1.97E-3	2.69E-6	6.05E-5	6.57E-8	-2.80E-4	1.76E-3
ODP	kg CFC11 eq	5.57E-8	3.90E-9	2.17E-9	6.17E-8	1.75E-9	1.45E-8	9.50E-11	-1.37E-8	6.43E-8
AP	mol H+ eq	2.51E-3	1.02E-4	9.14E-5	2.70E-3	4.32E-5	3.53E-4	2.27E-6	-1.08E-3	2.02E-3
EP-fw	kg P eq	1.56E-5	1.78E-7	2.89E-7	1.61E-5	6.25E-8	3.01E-6	2.99E-9	-6.40E-6	1.27E-5
EP-m	kg N eq	4.67E-4	3.61E-5	2.40E-5	5.27E-4	1.55E-5	9.38E-5	1.64E-6	-1.96E-4	4.41E-4
EP-T	mol N eq	5.25E-3	3.98E-4	2.53E-4	5.90E-3	1.71E-4	1.04E-3	9.22E-6	-2.19E-3	4.93E-3
POCP	kg NMVOC eq	1.87E-3	1.14E-4	7.27E-5	2.05E-3	4.87E-5	3.16E-4	2.99E-6	-9.35E-4	1.48E-3
ADP-mm	kg Sb eq	6.80E-5	4.47E-7	3.91E-7	6.88E-5	1.96E-7	1.21E-6	2.30E-9	-3.59E-6	6.66E-5
ADP-f	MJ	1.20E+1	2.66E-1	2.40E-1	1.25E+1	1.17E-1	1.06E+0	6.94E-3	-1.06E+1	3.11E+0
WDP	m3 depriv.	5.04E-1	9.52E-4	1.42E-1	6.47E-1	3.58E-4	2.46E-2	4.03E-5	-2.27E-1	4.45E-1
PM	disease inc.	2.42E-8	1.59E-9	1.24E-9	2.70E-8	6.85E-10	5.55E-9	4.77E-11	-1.08E-8	2.25E-8
IR	kBq U-235 eq	2.48E-2	1.12E-3	3.20E-4	2.62E-2	5.09E-4	3.75E-3	3.20E-5	-6.99E-3	2.35E-2
ETP-fw	CTUe	1.14E+2	2.37E-1	3.65E-1	1.14E+2	9.46E-2	2.61E+0	6.51E-3	-3.66E+0	1.13E+2
HTP-c	CTUh	2.27E-10	7.70E-12	1.56E-11	2.50E-10	3.37E-12	1.41E-10	1.72E-13	-7.36E-11	3.21E-10
HTP-nc	CTUh	5.37E-8	2.60E-10	3.84E-10	5.43E-8	1.13E-10	1.87E-9	3.66E-12	-2.19E-9	5.41E-8
SQP	Pt	3.01E+0	2.31E-1	2.32E-2	3.26E+0	9.97E-2	7.34E-1	1.78E-2	-5.82E+0	-1.71E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.71E-1	3.33E-3	7.87E-1	1.46E+0	1.67E-3	9.36E-2	2.63E-4	-1.14E+0	4.21E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.71E-1	3.33E-3	7.87E-1	1.46E+0	1.67E-3	9.36E-2	2.63E-4	-1.14E+0	4.21E-1
PENRE	MJ	1.28E+1	2.83E-1	2.61E-1	1.34E+1	1.24E-1	1.13E+0	7.36E-3	-1.14E+1	3.26E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.28E+1	2.83E-1	2.61E-1	1.34E+1	1.24E-1	1.13E+0	7.36E-3	-1.14E+1	3.26E+0
PET	MJ	1.35E+1	2.86E-1	1.05E+0	1.48E+1	1.25E-1	1.22E+0	7.62E-3	-1.25E+1	3.68E+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	1.16E-2	3.24E-5	3.35E-3	1.50E-2	1.32E-5	8.28E-4	8.52E-6	-3.90E-3	1.20E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.31E-6	6.75E-7	2.94E-7	7.27E-6	2.98E-7	2.38E-6	8.41E-9	-2.55E-6	7.41E-6
NHWD	kg	4.94E-2	1.69E-2	1.20E-3	6.75E-2	7.22E-3	5.23E-2	3.05E-2	-1.06E-2	1.47E-1
RWD	kg	2.84E-5	1.75E-6	4.21E-7	3.06E-5	7.93E-7	4.74E-6	4.52E-8	-6.48E-6	2.97E-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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