

Environmental Profile

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

Ecochain v3.5.64



Product: 3079957 - AS+ Bend DN 125 45°
 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	1.16E+0	4.14E-2	5.58E-2	1.26E+0	1.75E-2	6.24E-1	3.72E-3	-6.71E-1	1.24E+0
GWP-f	kg CO2 eq	1.17E+0	4.14E-2	4.55E-2	1.25E+0	1.74E-2	5.85E-1	3.71E-3	-7.53E-1	1.11E+0
GWP-b	kg CO2 eq	-2.21E-3	1.91E-5	6.82E-3	4.62E-3	1.06E-5	3.90E-2	7.10E-6	8.21E-2	1.26E-1
GWP-luluc	kg CO2 eq	1.17E-3	1.52E-5	3.49E-3	4.68E-3	6.17E-6	1.43E-4	1.45E-7	-7.42E-4	4.08E-3
ODP	kg CFC11 eq	1.02E-7	9.14E-9	5.20E-9	1.16E-7	4.02E-9	3.43E-8	2.11E-10	-2.73E-8	1.27E-7
AP	mol H+ eq	5.24E-3	2.40E-4	2.19E-4	5.70E-3	9.93E-5	8.25E-4	5.04E-6	-2.57E-3	4.06E-3
EP-fw	kg P eq	3.32E-5	4.18E-7	6.93E-7	3.43E-5	1.43E-7	7.16E-6	6.62E-9	-1.60E-5	2.56E-5
EP-m	kg N eq	1.01E-3	8.46E-5	5.75E-5	1.15E-3	3.55E-5	2.18E-4	3.22E-6	-4.65E-4	9.43E-4
EP-T	mol N eq	1.13E-2	9.33E-4	6.07E-4	1.28E-2	3.92E-4	2.40E-3	2.05E-5	-5.20E-3	1.04E-2
POCP	kg NMVOC eq	3.86E-3	2.66E-4	1.74E-4	4.30E-3	1.12E-4	7.37E-4	6.59E-6	-2.20E-3	2.95E-3
ADP-mm	kg Sb eq	1.11E-4	1.05E-6	9.37E-7	1.13E-4	4.51E-7	2.89E-6	5.12E-9	-6.95E-6	1.09E-4
ADP-f	MJ	2.49E+1	6.24E-1	5.74E-1	2.61E+1	2.68E-1	2.52E+0	1.54E-2	-2.43E+1	4.59E+0
WDP	m3 depriv.	1.12E+0	2.23E-3	3.40E-1	1.46E+0	8.21E-4	5.71E-2	8.97E-5	-5.51E-1	9.68E-1
PM	disease inc.	4.91E-8	3.72E-9	2.97E-9	5.57E-8	1.57E-9	1.32E-8	1.06E-10	-2.65E-8	4.41E-8
IR	kBq U-235 eq	4.77E-2	2.62E-3	7.66E-4	5.11E-2	1.17E-3	8.91E-3	7.09E-5	-1.67E-2	4.46E-2
ETP-fw	CTUe	2.70E+2	5.57E-1	8.74E-1	2.71E+2	2.17E-1	6.03E+0	1.32E-2	-9.43E+0	2.68E+2
HTP-c	CTUh	4.74E-10	1.81E-11	3.74E-11	5.29E-10	7.73E-12	3.34E-10	3.81E-13	-1.76E-10	6.95E-10
HTP-nc	CTUh	1.27E-7	6.09E-10	9.21E-10	1.28E-7	2.59E-10	4.36E-9	7.79E-12	-5.35E-9	1.27E-7
SQP	Pt	6.82E+0	5.42E-1	5.57E-2	7.41E+0	2.29E-1	1.74E+0	3.96E-2	-1.59E+1	-6.43E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.54E+0	7.82E-3	1.88E+0	3.43E+0	3.84E-3	2.22E-1	5.76E-4	-3.07E+0	5.91E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.54E+0	7.82E-3	1.88E+0	3.43E+0	3.84E-3	2.22E-1	5.76E-4	-3.07E+0	5.91E-1
PENRE	MJ	2.67E+1	6.63E-1	6.25E-1	2.80E+1	2.84E-1	2.68E+0	1.64E-2	-2.62E+1	4.79E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.67E+1	6.63E-1	6.25E-1	2.80E+1	2.84E-1	2.68E+0	1.64E-2	-2.62E+1	4.79E+0
PET	MJ	2.82E+1	6.71E-1	2.51E+0	3.14E+1	2.88E-1	2.90E+0	1.69E-2	-2.92E+1	5.38E+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	2.57E-2	7.60E-5	8.02E-3	3.38E-2	3.03E-5	1.81E-3	1.89E-5	-9.59E-3	2.60E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.29E-5	1.58E-6	7.05E-7	1.52E-5	6.85E-7	5.59E-6	1.87E-8	-5.15E-6	1.64E-5
NHWD	kg	1.06E-1	3.96E-2	2.87E-3	1.49E-1	1.66E-2	1.22E-1	6.80E-2	-2.55E-2	3.30E-1
RWD	kg	5.25E-5	4.10E-6	1.01E-6	5.77E-5	1.82E-6	1.13E-5	1.00E-7	-1.52E-5	5.56E-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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