

Environmental Profile

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

Ecochain v3.5.64



Product: 3079973 - AS+ Bend DN 70 67°
 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					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	4.32E-1	1.54E-2	2.07E-2	4.68E-1	6.48E-3	2.31E-1	1.38E-3	-2.50E-1	4.57E-1
GWP-f	kg CO2 eq	4.33E-1	1.54E-2	1.69E-2	4.65E-1	6.48E-3	2.17E-1	1.38E-3	-2.80E-1	4.10E-1
GWP-b	kg CO2 eq	-8.15E-4	7.11E-6	2.53E-3	1.72E-3	3.93E-6	1.42E-2	2.63E-6	2.98E-2	4.58E-2
GWP-luluc	kg CO2 eq	4.30E-4	5.64E-6	1.30E-3	1.73E-3	2.29E-6	5.33E-5	5.41E-8	-2.71E-4	1.52E-3
ODP	kg CFC11 eq	3.73E-8	3.40E-9	1.93E-9	4.26E-8	1.49E-9	1.27E-8	7.85E-11	-1.01E-8	4.68E-8
AP	mol H+ eq	1.94E-3	8.93E-5	8.12E-5	2.11E-3	3.69E-5	3.06E-4	1.87E-6	-9.52E-4	1.51E-3
EP-fw	kg P eq	1.23E-5	1.55E-7	2.57E-7	1.27E-5	5.33E-8	2.66E-6	2.46E-9	-5.90E-6	9.53E-6
EP-m	kg N eq	3.74E-4	3.15E-5	2.13E-5	4.27E-4	1.32E-5	8.08E-5	1.19E-6	-1.72E-4	3.50E-4
EP-T	mol N eq	4.19E-3	3.47E-4	2.25E-4	4.76E-3	1.46E-4	8.92E-4	7.61E-6	-1.93E-3	3.88E-3
POCP	kg NMVOC eq	1.43E-3	9.90E-5	6.45E-5	1.59E-3	4.16E-5	2.73E-4	2.45E-6	-8.17E-4	1.09E-3
ADP-mm	kg Sb eq	4.04E-5	3.90E-7	3.47E-7	4.11E-5	1.68E-7	1.07E-6	1.90E-9	-2.56E-6	3.98E-5
ADP-f	MJ	9.24E+0	2.32E-1	2.13E-1	9.69E+0	9.95E-2	9.35E-1	5.73E-3	-9.04E+0	1.68E+0
WDP	m3 depriv.	4.16E-1	8.31E-4	1.26E-1	5.43E-1	3.05E-4	2.12E-2	3.38E-5	-2.04E-1	3.60E-1
PM	disease inc.	1.81E-8	1.38E-9	1.10E-9	2.06E-8	5.85E-10	4.89E-9	3.94E-11	-9.78E-9	1.63E-8
IR	kBq U-235 eq	1.76E-2	9.73E-4	2.84E-4	1.88E-2	4.35E-4	3.31E-3	2.63E-5	-6.16E-3	1.64E-2
ETP-fw	CTUe	1.00E+2	2.07E-1	3.24E-1	1.00E+2	8.08E-2	2.23E+0	4.87E-3	-3.45E+0	9.94E+1
HTP-c	CTUh	1.76E-10	6.72E-12	1.39E-11	1.96E-10	2.87E-12	1.25E-10	1.42E-13	-6.51E-11	2.59E-10
HTP-nc	CTUh	4.70E-8	2.26E-10	3.41E-10	4.75E-8	9.63E-11	1.62E-9	2.89E-12	-1.98E-9	4.73E-8
SQP	Pt	2.50E+0	2.01E-1	2.06E-2	2.72E+0	8.51E-2	6.47E-1	1.47E-2	-5.77E+0	-2.30E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	5.66E-1	2.91E-3	6.99E-1	1.27E+0	1.43E-3	8.25E-2	2.13E-4	-1.12E+0	2.34E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	5.66E-1	2.91E-3	6.99E-1	1.27E+0	1.43E-3	8.25E-2	2.13E-4	-1.12E+0	2.34E-1
PENRE	MJ	9.90E+0	2.47E-1	2.32E-1	1.04E+1	1.06E-1	9.95E-1	6.08E-3	-9.72E+0	1.76E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	9.90E+0	2.47E-1	2.32E-1	1.04E+1	1.06E-1	9.95E-1	6.08E-3	-9.72E+0	1.76E+0
PET	MJ	1.05E+1	2.49E-1	9.30E-1	1.16E+1	1.07E-1	1.08E+0	6.29E-3	-1.08E+1	1.99E+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	9.53E-3	2.83E-5	2.97E-3	1.25E-2	1.13E-5	6.70E-4	7.03E-6	-3.54E-3	9.68E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.79E-6	5.88E-7	2.61E-7	5.64E-6	2.54E-7	2.07E-6	6.95E-9	-1.91E-6	6.07E-6
NHWD	kg	3.95E-2	1.47E-2	1.06E-3	5.53E-2	6.16E-3	4.52E-2	2.52E-2	-9.42E-3	1.22E-1
RWD	kg	1.93E-5	1.52E-6	3.74E-7	2.12E-5	6.76E-7	4.18E-6	3.73E-8	-5.62E-6	2.05E-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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