

Environmental Profile

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

Ecochain v3.5.64



Product: 3079966 - AS+ Bend DN 50 30°
 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
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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					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	2.39E-1	8.07E-3	1.03E-2	2.58E-1	3.30E-3	1.31E-1	7.25E-4	-1.22E-1	2.70E-1
GWP-f	kg CO2 eq	2.39E-1	8.07E-3	8.36E-3	2.56E-1	3.29E-3	1.17E-1	7.25E-4	-1.52E-1	2.25E-1
GWP-b	kg CO2 eq	-3.09E-4	3.72E-6	1.25E-3	9.47E-4	2.00E-6	1.38E-2	1.35E-6	3.03E-2	4.51E-2
GWP-luluc	kg CO2 eq	3.08E-4	2.96E-6	6.42E-4	9.54E-4	1.17E-6	2.72E-5	2.80E-8	-2.43E-4	7.39E-4
ODP	kg CFC11 eq	2.21E-8	1.78E-9	9.55E-10	2.48E-8	7.59E-10	6.61E-9	4.02E-11	-6.53E-9	2.57E-8
AP	mol H+ eq	1.10E-3	4.68E-5	4.02E-5	1.19E-3	1.88E-5	1.62E-4	9.61E-7	-5.54E-4	8.17E-4
EP-fw	kg P eq	7.41E-6	8.14E-8	1.27E-7	7.61E-6	2.71E-8	1.35E-6	1.27E-9	-4.31E-6	4.69E-6
EP-m	kg N eq	2.21E-4	1.65E-5	1.06E-5	2.48E-4	6.71E-6	4.38E-5	6.25E-7	-1.04E-4	1.95E-4
EP-T	mol N eq	2.44E-3	1.82E-4	1.12E-4	2.73E-3	7.40E-5	4.83E-4	3.90E-6	-1.17E-3	2.12E-3
POCP	kg NMVOC eq	8.06E-4	5.19E-5	3.20E-5	8.90E-4	2.11E-5	1.48E-4	1.26E-6	-4.62E-4	5.98E-4
ADP-mm	kg Sb eq	2.28E-5	2.04E-7	1.72E-7	2.32E-5	8.52E-8	5.72E-7	9.77E-10	-1.46E-6	2.24E-5
ADP-f	MJ	5.04E+0	1.22E-1	1.05E-1	5.27E+0	5.05E-2	4.85E-1	2.93E-3	-4.75E+0	1.06E+0
WDP	m3 depriv.	2.19E-1	4.35E-4	6.26E-2	2.82E-1	1.55E-4	1.08E-2	1.82E-5	-1.25E-1	1.68E-1
PM	disease inc.	1.08E-8	7.24E-10	5.46E-10	1.21E-8	2.97E-10	2.58E-9	2.02E-11	-6.39E-9	8.58E-9
IR	kBq U-235 eq	1.00E-2	5.10E-4	1.41E-4	1.07E-2	2.21E-4	1.73E-3	1.35E-5	-4.08E-3	8.56E-3
ETP-fw	CTUe	5.21E+1	1.08E-1	1.61E-1	5.24E+1	4.10E-2	1.16E+0	2.55E-3	-2.91E+0	5.07E+1
HTP-c	CTUh	1.01E-10	3.52E-12	6.88E-12	1.11E-10	1.46E-12	6.55E-11	7.34E-14	-4.20E-11	1.36E-10
HTP-nc	CTUh	2.38E-8	1.19E-10	1.69E-10	2.41E-8	4.89E-11	8.46E-10	1.50E-12	-1.30E-9	2.37E-8
SQP	Pt	1.92E+0	1.06E-1	1.02E-2	2.03E+0	4.32E-2	3.34E-1	7.52E-3	-5.65E+0	-3.23E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.21E-1	1.52E-3	3.46E-1	7.69E-1	7.25E-4	4.19E-2	1.09E-4	-1.06E+0	-2.50E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.21E-1	1.52E-3	3.46E-1	7.69E-1	7.25E-4	4.19E-2	1.09E-4	-1.06E+0	-2.50E-1
PENRE	MJ	5.40E+0	1.29E-1	1.15E-1	5.64E+0	5.37E-2	5.16E-1	3.11E-3	-5.11E+0	1.11E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.40E+0	1.29E-1	1.15E-1	5.64E+0	5.37E-2	5.16E-1	3.11E-3	-5.11E+0	1.11E+0
PET	MJ	5.82E+0	1.31E-1	4.61E-1	6.41E+0	5.44E-2	5.58E-1	3.22E-3	-6.17E+0	8.59E-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	5.11E-3	1.48E-5	1.47E-3	6.60E-3	5.72E-6	3.49E-4	3.60E-6	-2.36E-3	4.60E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.83E-6	3.08E-7	1.30E-7	3.27E-6	1.29E-7	1.08E-6	3.57E-9	-1.21E-6	3.27E-6
NHWD	kg	2.34E-2	7.72E-3	5.28E-4	3.16E-2	3.13E-3	2.35E-2	1.29E-2	-5.98E-3	6.52E-2
RWD	kg	1.11E-5	7.99E-7	1.86E-7	1.21E-5	3.44E-7	2.20E-6	1.91E-8	-3.77E-6	1.08E-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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