

Environmental Profile

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

Ecochain v3.5.64



Product: 3080083 - AS+ Reducer DN 150x125 short
 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

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	1.25E+0	4.51E-2	6.15E-2	1.36E+0	1.92E-2	6.65E-1	4.07E-3	-7.46E-1	1.30E+0
GWP-f	kg CO2 eq	1.25E+0	4.51E-2	5.02E-2	1.35E+0	1.92E-2	6.32E-1	4.06E-3	-8.12E-1	1.19E+0
GWP-b	kg CO2 eq	-2.57E-3	2.08E-5	7.52E-3	4.96E-3	1.16E-5	3.24E-2	7.79E-6	6.64E-2	1.04E-1
GWP-luluc	kg CO2 eq	1.14E-3	1.65E-5	3.85E-3	5.01E-3	6.79E-6	1.57E-4	1.60E-7	-6.50E-4	4.53E-3
ODP	kg CFC11 eq	1.07E-7	9.95E-9	5.73E-9	1.23E-7	4.42E-9	3.74E-8	2.32E-10	-2.78E-8	1.37E-7
AP	mol H+ eq	5.60E-3	2.61E-4	2.41E-4	6.10E-3	1.09E-4	8.96E-4	5.53E-6	-2.71E-3	4.40E-3
EP-fw	kg P eq	3.48E-5	4.55E-7	7.64E-7	3.60E-5	1.58E-7	7.86E-6	7.27E-9	-1.56E-5	2.85E-5
EP-m	kg N eq	1.06E-3	9.21E-5	6.34E-5	1.22E-3	3.91E-5	2.35E-4	3.50E-6	-4.86E-4	1.01E-3
EP-T	mol N eq	1.20E-2	1.02E-3	6.70E-4	1.36E-2	4.31E-4	2.60E-3	2.25E-5	-5.42E-3	1.13E-2
POCP	kg NMVOC eq	4.12E-3	2.90E-4	1.92E-4	4.60E-3	1.23E-4	7.96E-4	7.23E-6	-2.35E-3	3.18E-3
ADP-mm	kg Sb eq	1.18E-4	1.14E-6	1.03E-6	1.20E-4	4.96E-7	3.13E-6	5.62E-9	-7.38E-6	1.17E-4
ADP-f	MJ	2.68E+1	6.80E-1	6.33E-1	2.81E+1	2.94E-1	2.75E+0	1.69E-2	-2.65E+1	4.70E+0
WDP	m3 depriv.	1.22E+0	2.43E-3	3.75E-1	1.60E+0	9.03E-4	6.26E-2	9.94E-5	-5.73E-1	1.09E+0
PM	disease inc.	5.16E-8	4.05E-9	3.27E-9	5.89E-8	1.73E-9	1.43E-8	1.17E-10	-2.69E-8	4.82E-8
IR	kBq U-235 eq	5.07E-2	2.85E-3	8.44E-4	5.44E-2	1.29E-3	9.71E-3	7.78E-5	-1.69E-2	4.86E-2
ETP-fw	CTUe	2.94E+2	6.06E-1	9.64E-1	2.95E+2	2.39E-1	6.58E+0	1.44E-2	-8.56E+0	2.93E+2
HTP-c	CTUh	5.06E-10	1.97E-11	4.13E-11	5.67E-10	8.50E-12	3.65E-10	4.18E-13	-1.80E-10	7.61E-10
HTP-nc	CTUh	1.39E-7	6.63E-10	1.02E-9	1.41E-7	2.85E-10	4.76E-9	8.52E-12	-5.41E-9	1.40E-7
SQP	Pt	6.49E+0	5.90E-1	6.14E-2	7.14E+0	2.52E-1	1.90E+0	4.34E-2	-1.31E+1	-3.81E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.48E+0	8.51E-3	2.08E+0	3.57E+0	4.22E-3	2.44E-1	6.31E-4	-2.60E+0	1.22E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.48E+0	8.51E-3	2.08E+0	3.57E+0	4.22E-3	2.44E-1	6.31E-4	-2.60E+0	1.22E+0
PENRE	MJ	2.87E+1	7.22E-1	6.89E-1	3.01E+1	3.12E-1	2.93E+0	1.80E-2	-2.85E+1	4.89E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.87E+1	7.22E-1	6.89E-1	3.01E+1	3.12E-1	2.93E+0	1.80E-2	-2.85E+1	4.89E+0
PET	MJ	3.02E+1	7.30E-1	2.77E+0	3.37E+1	3.17E-1	3.17E+0	1.86E-2	-3.11E+1	6.12E+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	2.78E-2	8.28E-5	8.84E-3	3.67E-2	3.33E-5	1.97E-3	2.08E-5	-9.66E-3	2.91E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.37E-5	1.72E-6	7.77E-7	1.62E-5	7.53E-7	6.08E-6	2.05E-8	-5.28E-6	1.78E-5
NHWD	kg	1.12E-1	4.31E-2	3.17E-3	1.59E-1	1.82E-2	1.33E-1	7.46E-2	-2.61E-2	3.58E-1
RWD	kg	5.57E-5	4.46E-6	1.11E-6	6.13E-5	2.00E-6	1.23E-5	1.10E-7	-1.53E-5	6.04E-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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