

Environmental Profile

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

Ecochain v3.5.64



Product: 3080080 - AS+ Reducer DN 100x90 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	5.90E-1	2.12E-2	2.88E-2	6.40E-1	9.03E-3	3.15E-1	1.92E-3	-3.53E-1	6.13E-1
GWP-f	kg CO2 eq	5.91E-1	2.12E-2	2.35E-2	6.36E-1	9.02E-3	3.00E-1	1.92E-3	-3.82E-1	5.65E-1
GWP-b	kg CO2 eq	-1.29E-3	9.79E-6	3.51E-3	2.24E-3	5.48E-6	1.45E-2	3.67E-6	2.95E-2	4.62E-2
GWP-luluc	kg CO2 eq	5.30E-4	7.77E-6	1.80E-3	2.34E-3	3.19E-6	7.38E-5	7.53E-8	-2.93E-4	2.12E-3
ODP	kg CFC11 eq	5.06E-8	4.68E-9	2.68E-9	5.79E-8	2.08E-9	1.76E-8	1.09E-10	-1.31E-8	6.46E-8
AP	mol H+ eq	2.64E-3	1.23E-4	1.13E-4	2.88E-3	5.14E-5	4.20E-4	2.61E-6	-1.27E-3	2.09E-3
EP-fw	kg P eq	1.63E-5	2.14E-7	3.57E-7	1.69E-5	7.42E-8	3.69E-6	3.43E-9	-7.16E-6	1.35E-5
EP-m	kg N eq	4.99E-4	4.33E-5	2.96E-5	5.72E-4	1.84E-5	1.10E-4	1.65E-6	-2.27E-4	4.76E-4
EP-T	mol N eq	5.63E-3	4.78E-4	3.13E-4	6.42E-3	2.03E-4	1.22E-3	1.06E-5	-2.53E-3	5.32E-3
POCP	kg NMVOC eq	1.95E-3	1.36E-4	8.98E-5	2.17E-3	5.79E-5	3.73E-4	3.41E-6	-1.10E-3	1.51E-3
ADP-mm	kg Sb eq	5.63E-5	5.37E-7	4.83E-7	5.73E-5	2.33E-7	1.47E-6	2.65E-9	-3.49E-6	5.55E-5
ADP-f	MJ	1.27E+1	3.20E-1	2.96E-1	1.33E+1	1.38E-1	1.29E+0	7.98E-3	-1.25E+1	2.28E+0
WDP	m3 depriv.	5.74E-1	1.14E-3	1.75E-1	7.51E-1	4.25E-4	2.94E-2	4.70E-5	-2.67E-1	5.14E-1
PM	disease inc.	2.43E-8	1.90E-9	1.53E-9	2.78E-8	8.14E-10	6.71E-9	5.49E-11	-1.25E-8	2.29E-8
IR	kBq U-235 eq	2.39E-2	1.34E-3	3.95E-4	2.57E-2	6.05E-4	4.55E-3	3.67E-5	-7.83E-3	2.30E-2
ETP-fw	CTUe	1.38E+2	2.85E-1	4.51E-1	1.38E+2	1.12E-1	3.09E+0	6.79E-3	-3.89E+0	1.38E+2
HTP-c	CTUh	2.39E-10	9.25E-12	1.93E-11	2.67E-10	4.00E-12	1.71E-10	1.97E-13	-8.36E-11	3.59E-10
HTP-nc	CTUh	6.52E-8	3.12E-10	4.75E-10	6.60E-8	1.34E-10	2.24E-9	4.02E-12	-2.51E-9	6.58E-8
SQP	Pt	3.00E+0	2.77E-1	2.87E-2	3.30E+0	1.18E-1	8.94E-1	2.05E-2	-5.86E+0	-1.53E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.86E-1	4.00E-3	9.72E-1	1.66E+0	1.99E-3	1.14E-1	2.97E-4	-1.16E+0	6.15E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.86E-1	4.00E-3	9.72E-1	1.66E+0	1.99E-3	1.14E-1	2.97E-4	-1.16E+0	6.15E-1
PENRE	MJ	1.36E+1	3.40E-1	3.22E-1	1.42E+1	1.47E-1	1.37E+0	8.46E-3	-1.34E+1	2.37E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.36E+1	3.40E-1	3.22E-1	1.42E+1	1.47E-1	1.37E+0	8.46E-3	-1.34E+1	2.37E+0
PET	MJ	1.43E+1	3.44E-1	1.29E+0	1.59E+1	1.49E-1	1.49E+0	8.76E-3	-1.46E+1	2.99E+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	1.31E-2	3.90E-5	4.13E-3	1.73E-2	1.57E-5	9.28E-4	9.79E-6	-4.47E-3	1.38E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.44E-6	8.11E-7	3.63E-7	7.62E-6	3.54E-7	2.86E-6	9.68E-9	-2.49E-6	8.34E-6
NHWD	kg	5.28E-2	2.03E-2	1.48E-3	7.46E-2	8.58E-3	6.24E-2	3.51E-2	-1.22E-2	1.69E-1
RWD	kg	2.63E-5	2.10E-6	5.20E-7	2.89E-5	9.42E-7	5.75E-6	5.19E-8	-7.11E-6	2.86E-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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