

Environmental Profile

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

Ecochain v3.5.64



Product: 3080078 - AS+ Reducer DN 100x50 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					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	6.45E-1	2.36E-2	3.16E-2	7.00E-1	9.78E-3	3.32E-1	2.00E-3	-3.64E-1	6.80E-1
GWP-f	kg CO2 eq	6.45E-1	2.36E-2	2.58E-2	6.95E-1	9.77E-3	3.04E-1	1.99E-3	-4.24E-1	5.87E-1
GWP-b	kg CO2 eq	-5.13E-4	1.09E-5	3.86E-3	3.36E-3	5.93E-6	2.80E-2	3.91E-6	6.01E-2	9.15E-2
GWP-luluc	kg CO2 eq	7.15E-4	8.65E-6	1.98E-3	2.70E-3	3.46E-6	8.15E-5	8.04E-8	-5.15E-4	2.27E-3
ODP	kg CFC11 eq	5.21E-8	5.21E-9	2.95E-9	6.03E-8	2.25E-9	1.96E-8	1.17E-10	-1.51E-8	6.71E-8
AP	mol H+ eq	2.88E-3	1.37E-4	1.24E-4	3.14E-3	5.56E-5	4.70E-4	2.78E-6	-1.51E-3	2.15E-3
EP-fw	kg P eq	1.87E-5	2.38E-7	3.93E-7	1.93E-5	8.04E-8	4.07E-6	3.66E-9	-1.02E-5	1.33E-5
EP-m	kg N eq	5.70E-4	4.83E-5	3.26E-5	6.51E-4	1.99E-5	1.24E-4	1.67E-6	-2.76E-4	5.21E-4
EP-T	mol N eq	6.33E-3	5.32E-4	3.44E-4	7.21E-3	2.19E-4	1.37E-3	1.13E-5	-3.09E-3	5.72E-3
POCP	kg NMVOC eq	2.10E-3	1.52E-4	9.87E-5	2.35E-3	6.27E-5	4.22E-4	3.63E-6	-1.28E-3	1.56E-3
ADP-mm	kg Sb eq	5.14E-5	5.98E-7	5.31E-7	5.25E-5	2.53E-7	1.66E-6	2.83E-9	-3.64E-6	5.08E-5
ADP-f	MJ	1.35E+1	3.56E-1	3.25E-1	1.42E+1	1.50E-1	1.44E+0	8.52E-3	-1.37E+1	2.04E+0
WDP	m3 depriv.	6.22E-1	1.27E-3	1.93E-1	8.16E-1	4.60E-4	3.22E-2	5.04E-5	-3.32E-1	5.17E-1
PM	disease inc.	2.68E-8	2.12E-9	1.68E-9	3.06E-8	8.82E-10	7.54E-9	5.86E-11	-1.62E-8	2.29E-8
IR	kBq U-235 eq	2.50E-2	1.49E-3	4.34E-4	2.70E-2	6.55E-4	5.10E-3	3.91E-5	-1.02E-2	2.26E-2
ETP-fw	CTUe	1.54E+2	3.18E-1	4.95E-1	1.55E+2	1.22E-1	3.39E+0	6.96E-3	-6.35E+0	1.52E+2
HTP-c	CTUh	2.61E-10	1.03E-11	2.12E-11	2.92E-10	4.33E-12	1.92E-10	2.10E-13	-1.07E-10	3.82E-10
HTP-nc	CTUh	7.15E-8	3.47E-10	5.22E-10	7.24E-8	1.45E-10	2.48E-9	4.22E-12	-3.29E-9	7.18E-8
SQP	Pt	4.24E+0	3.09E-1	3.16E-2	4.58E+0	1.28E-1	9.93E-1	2.19E-2	-1.14E+1	-5.69E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.54E-1	4.46E-3	1.07E+0	2.03E+0	2.15E-3	1.26E-1	3.15E-4	-2.18E+0	-2.44E-2
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.54E-1	4.46E-3	1.07E+0	2.03E+0	2.15E-3	1.26E-1	3.15E-4	-2.18E+0	-2.44E-2
PENRE	MJ	1.45E+1	3.78E-1	3.54E-1	1.52E+1	1.59E-1	1.53E+0	9.04E-3	-1.48E+1	2.13E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.45E+1	3.78E-1	3.54E-1	1.52E+1	1.59E-1	1.53E+0	9.04E-3	-1.48E+1	2.13E+0
PET	MJ	1.54E+1	3.83E-1	1.42E+0	1.72E+1	1.61E-1	1.65E+0	9.36E-3	-1.70E+1	2.10E+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	1.43E-2	4.34E-5	4.55E-3	1.89E-2	1.70E-5	9.92E-4	1.05E-5	-5.93E-3	1.39E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	7.11E-6	9.02E-7	4.00E-7	8.42E-6	3.83E-7	3.18E-6	1.03E-8	-2.86E-6	9.13E-6
NHWD	kg	5.99E-2	2.26E-2	1.63E-3	8.42E-2	9.29E-3	6.89E-2	3.75E-2	-1.54E-2	1.84E-1
RWD	kg	2.69E-5	2.34E-6	5.72E-7	2.98E-5	1.02E-6	6.46E-6	5.54E-8	-9.25E-6	2.81E-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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