

Environmental Profile

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

Ecochain v3.5.64



Product: 3080079 - AS+ Reducer DN 100x70 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
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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	6.05E-1	2.17E-2	2.89E-2	6.56E-1	8.96E-3	3.18E-1	1.87E-3	-3.34E-1	6.51E-1
GWP-f	kg CO2 eq	6.05E-1	2.17E-2	2.35E-2	6.51E-1	8.95E-3	2.90E-1	1.87E-3	-3.94E-1	5.58E-1
GWP-b	kg CO2 eq	-6.09E-4	1.00E-5	3.52E-3	2.93E-3	5.44E-6	2.79E-2	3.61E-6	6.03E-2	9.12E-2
GWP-luluc	kg CO2 eq	6.92E-4	7.95E-6	1.81E-3	2.51E-3	3.17E-6	7.45E-5	7.42E-8	-5.08E-4	2.08E-3
ODP	kg CFC11 eq	5.09E-8	4.79E-9	2.69E-9	5.84E-8	2.06E-9	1.79E-8	1.08E-10	-1.48E-8	6.38E-8
AP	mol H+ eq	2.72E-3	1.26E-4	1.13E-4	2.96E-3	5.10E-5	4.33E-4	2.57E-6	-1.41E-3	2.04E-3
EP-fw	kg P eq	1.78E-5	2.19E-7	3.58E-7	1.84E-5	7.37E-8	3.72E-6	3.38E-9	-9.81E-6	1.24E-5
EP-m	kg N eq	5.40E-4	4.44E-5	2.97E-5	6.14E-4	1.82E-5	1.15E-4	1.58E-6	-2.59E-4	4.90E-4
EP-T	mol N eq	5.98E-3	4.89E-4	3.14E-4	6.79E-3	2.01E-4	1.27E-3	1.04E-5	-2.90E-3	5.37E-3
POCP	kg NMVOC eq	1.99E-3	1.40E-4	9.00E-5	2.22E-3	5.75E-5	3.89E-4	3.35E-6	-1.19E-3	1.48E-3
ADP-mm	kg Sb eq	5.14E-5	5.50E-7	4.85E-7	5.24E-5	2.32E-7	1.53E-6	2.61E-9	-3.52E-6	5.06E-5
ADP-f	MJ	1.27E+1	3.27E-1	2.97E-1	1.34E+1	1.37E-1	1.32E+0	7.86E-3	-1.27E+1	2.16E+0
WDP	m3 depriv.	5.76E-1	1.17E-3	1.76E-1	7.53E-1	4.22E-4	2.95E-2	4.65E-5	-3.10E-1	4.73E-1
PM	disease inc.	2.57E-8	1.95E-9	1.54E-9	2.92E-8	8.08E-10	6.92E-9	5.41E-11	-1.53E-8	2.16E-8
IR	kBq U-235 eq	2.41E-2	1.37E-3	3.96E-4	2.58E-2	6.01E-4	4.67E-3	3.61E-5	-9.67E-3	2.15E-2
ETP-fw	CTUe	1.41E+2	2.92E-1	4.52E-1	1.42E+2	1.12E-1	3.12E+0	6.55E-3	-6.21E+0	1.39E+2
HTP-c	CTUh	2.47E-10	9.47E-12	1.94E-11	2.76E-10	3.97E-12	1.76E-10	1.94E-13	-1.01E-10	3.54E-10
HTP-nc	CTUh	6.54E-8	3.19E-10	4.76E-10	6.62E-8	1.33E-10	2.28E-9	3.92E-12	-3.11E-9	6.55E-8
SQP	Pt	4.15E+0	2.84E-1	2.88E-2	4.47E+0	1.18E-1	9.09E-1	2.02E-2	-1.14E+1	-5.87E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	9.28E-1	4.10E-3	9.74E-1	1.91E+0	1.97E-3	1.15E-1	2.92E-4	-2.16E+0	-1.40E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	9.28E-1	4.10E-3	9.74E-1	1.91E+0	1.97E-3	1.15E-1	2.92E-4	-2.16E+0	-1.40E-1
PENRE	MJ	1.36E+1	3.48E-1	3.23E-1	1.43E+1	1.46E-1	1.40E+0	8.34E-3	-1.36E+1	2.25E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.36E+1	3.48E-1	3.23E-1	1.43E+1	1.46E-1	1.40E+0	8.34E-3	-1.36E+1	2.25E+0
PET	MJ	1.46E+1	3.52E-1	1.30E+0	1.62E+1	1.48E-1	1.51E+0	8.63E-3	-1.58E+1	2.11E+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	1.33E-2	3.99E-5	4.15E-3	1.75E-2	1.56E-5	9.22E-4	9.65E-6	-5.62E-3	1.28E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.79E-6	8.30E-7	3.64E-7	7.98E-6	3.51E-7	2.92E-6	9.54E-9	-2.78E-6	8.48E-6
NHWD	kg	5.68E-2	2.08E-2	1.49E-3	7.90E-2	8.52E-3	6.33E-2	3.46E-2	-1.45E-2	1.71E-1
RWD	kg	2.61E-5	2.15E-6	5.22E-7	2.88E-5	9.35E-7	5.92E-6	5.12E-8	-8.83E-6	2.69E-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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