

Environmental Profile

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

Ecochain v3.5.64



Product: 3080084 - AS+ Reducer DN 200x150 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	1.81E+0	6.53E-2	8.88E-2	1.97E+0	2.77E-2	9.63E-1	5.85E-3	-1.07E+0	1.89E+0
GWP-f	kg CO2 eq	1.81E+0	6.52E-2	7.24E-2	1.95E+0	2.76E-2	9.13E-1	5.84E-3	-1.18E+0	1.72E+0
GWP-b	kg CO2 eq	-3.60E-3	3.01E-5	1.08E-2	7.28E-3	1.68E-5	5.02E-2	1.12E-5	1.04E-1	1.61E-1
GWP-luluc	kg CO2 eq	1.69E-3	2.39E-5	5.56E-3	7.28E-3	9.78E-6	2.27E-4	2.30E-7	-9.93E-4	6.52E-3
ODP	kg CFC11 eq	1.55E-7	1.44E-8	8.27E-9	1.77E-7	6.37E-9	5.41E-8	3.34E-10	-4.08E-8	1.97E-7
AP	mol H+ eq	8.10E-3	3.78E-4	3.49E-4	8.83E-3	1.57E-4	1.30E-3	7.98E-6	-3.95E-3	6.34E-3
EP-fw	kg P eq	5.06E-5	6.58E-7	1.10E-6	5.23E-5	2.27E-7	1.13E-5	1.05E-8	-2.31E-5	4.08E-5
EP-m	kg N eq	1.54E-3	1.33E-4	9.15E-5	1.77E-3	5.63E-5	3.40E-4	5.03E-6	-7.09E-4	1.46E-3
EP-T	mol N eq	1.74E-2	1.47E-3	9.67E-4	1.98E-2	6.21E-4	3.76E-3	3.24E-5	-7.91E-3	1.63E-2
POCP	kg NMVOC eq	5.97E-3	4.20E-4	2.77E-4	6.66E-3	1.77E-4	1.15E-3	1.04E-5	-3.41E-3	4.60E-3
ADP-mm	kg Sb eq	1.69E-4	1.65E-6	1.49E-6	1.73E-4	7.15E-7	4.53E-6	8.09E-9	-1.07E-5	1.67E-4
ADP-f	MJ	3.88E+1	9.84E-1	9.13E-1	4.07E+1	4.24E-1	3.97E+0	2.44E-2	-3.83E+1	6.83E+0
WDP	m3 depriv.	1.76E+0	3.52E-3	5.42E-1	2.30E+0	1.30E-3	9.04E-2	1.42E-4	-8.37E-1	1.56E+0
PM	disease inc.	7.48E-8	5.86E-9	4.73E-9	8.54E-8	2.50E-9	2.07E-8	1.68E-10	-3.95E-8	6.93E-8
IR	kBq U-235 eq	7.33E-2	4.12E-3	1.22E-3	7.86E-2	1.85E-3	1.40E-2	1.12E-4	-2.48E-2	6.98E-2
ETP-fw	CTUe	4.25E+2	8.77E-1	1.39E+0	4.27E+2	3.45E-1	9.51E+0	2.07E-2	-1.29E+1	4.24E+2
HTP-c	CTUh	7.32E-10	2.85E-11	5.96E-11	8.20E-10	1.23E-11	5.27E-10	6.02E-13	-2.64E-10	1.10E-9
HTP-nc	CTUh	2.01E-7	9.60E-10	1.47E-9	2.03E-7	4.11E-10	6.88E-9	1.23E-11	-7.96E-9	2.02E-7
SQP	Pt	9.66E+0	8.54E-1	8.86E-2	1.06E+1	3.63E-1	2.75E+0	6.26E-2	-2.04E+1	-6.59E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.20E+0	1.23E-2	3.00E+0	5.22E+0	6.09E-3	3.52E-1	9.09E-4	-4.00E+0	1.57E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.20E+0	1.23E-2	3.00E+0	5.22E+0	6.09E-3	3.52E-1	9.09E-4	-4.00E+0	1.57E+0
PENRE	MJ	4.16E+1	1.04E+0	9.95E-1	4.36E+1	4.50E-1	4.23E+0	2.59E-2	-4.12E+1	7.12E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.16E+1	1.04E+0	9.95E-1	4.36E+1	4.50E-1	4.23E+0	2.59E-2	-4.12E+1	7.12E+0
PET	MJ	4.38E+1	1.06E+0	3.99E+0	4.88E+1	4.57E-1	4.58E+0	2.68E-2	-4.52E+1	8.69E+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	4.02E-2	1.20E-4	1.28E-2	5.31E-2	4.80E-5	2.85E-3	3.00E-5	-1.42E-2	4.18E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.98E-5	2.49E-6	1.12E-6	2.34E-5	1.09E-6	8.80E-6	2.96E-8	-7.73E-6	2.56E-5
NHWD	kg	1.63E-1	6.24E-2	4.57E-3	2.30E-1	2.63E-2	1.92E-1	1.08E-1	-3.83E-2	5.17E-1
RWD	kg	8.04E-5	6.46E-6	1.61E-6	8.84E-5	2.89E-6	1.77E-5	1.59E-7	-2.25E-5	8.67E-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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