

Environmental Profile

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

Ecochain v3.5.64



Product: 3080067 - AS+ Pipe LGY DN70 L=1 S/PL
 Unit: 1 piece
 Manufacturer: Wavin Germany Twist
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 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	2.18E+0	6.20E-2	1.15E-1	2.36E+0	4.16E-2	1.12E+0	7.84E-3	-1.45E+0	2.08E+0
GWP-f	kg CO2 eq	2.18E+0	6.19E-2	9.56E-2	2.34E+0	4.15E-2	1.12E+0	7.84E-3	-1.44E+0	2.06E+0
GWP-b	kg CO2 eq	-5.41E-3	2.86E-5	1.42E-2	8.78E-3	2.52E-5	5.06E-3	1.46E-5	-5.77E-3	8.10E-3
GWP-luluc	kg CO2 eq	1.29E-3	2.27E-5	5.63E-3	6.94E-3	1.47E-5	3.21E-4	3.04E-7	-3.18E-4	6.96E-3
ODP	kg CFC11 eq	1.50E-7	1.37E-8	1.16E-8	1.76E-7	9.57E-9	7.08E-8	4.70E-10	-3.92E-8	2.17E-7
AP	mol H+ eq	9.21E-3	3.59E-4	4.37E-4	1.00E-2	2.36E-4	1.76E-3	1.10E-5	-4.53E-3	7.48E-3
EP-fw	kg P eq	5.31E-5	6.24E-7	1.34E-6	5.51E-5	3.42E-7	1.52E-5	1.38E-8	-1.82E-5	5.24E-5
EP-m	kg N eq	1.68E-3	1.27E-4	1.29E-4	1.94E-3	8.46E-5	4.56E-4	6.43E-6	-7.76E-4	1.71E-3
EP-T	mol N eq	1.92E-2	1.39E-3	1.34E-3	2.19E-2	9.32E-4	5.04E-3	4.49E-5	-8.60E-3	1.93E-2
POCP	kg NMVOC eq	6.97E-3	3.98E-4	3.85E-4	7.76E-3	2.67E-4	1.56E-3	1.44E-5	-4.04E-3	5.56E-3
ADP-mm	kg Sb eq	1.67E-4	1.57E-6	1.57E-6	1.70E-4	1.07E-6	6.28E-6	1.10E-8	-1.13E-5	1.66E-4
ADP-f	MJ	5.01E+1	9.34E-1	1.23E+0	5.23E+1	6.37E-1	5.56E+0	3.40E-2	-4.87E+1	9.76E+0
WDP	m3 depriv.	2.17E+0	3.34E-3	6.73E-1	2.85E+0	1.96E-3	1.24E-1	1.68E-4	-9.03E-1	2.07E+0
PM	disease inc.	7.92E-8	5.56E-9	6.76E-9	9.15E-8	3.75E-9	2.86E-8	2.33E-10	-3.86E-8	8.55E-8
IR	kBq U-235 eq	7.92E-2	3.91E-3	1.77E-3	8.49E-2	2.79E-3	1.92E-2	1.56E-4	-2.37E-2	8.33E-2
ETP-fw	CTUe	5.08E+2	8.33E-1	1.59E+0	5.11E+2	5.17E-1	1.22E+1	2.69E-2	-6.46E+0	5.17E+2
HTP-c	CTUh	7.96E-10	2.70E-11	7.02E-11	8.93E-10	1.84E-11	7.10E-10	7.82E-13	-2.63E-10	1.36E-9
HTP-nc	CTUh	2.46E-7	9.11E-10	1.64E-9	2.48E-7	6.17E-10	9.39E-9	1.62E-11	-7.67E-9	2.51E-7
SQP	Pt	6.25E+0	8.10E-1	1.34E-1	7.20E+0	5.45E-1	3.96E+0	8.63E-2	-1.36E+0	1.04E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.61E+0	1.17E-2	3.04E+0	4.65E+0	9.14E-3	4.70E-1	1.21E-3	-6.55E-1	4.48E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.61E+0	1.17E-2	3.04E+0	4.65E+0	9.14E-3	4.70E-1	1.21E-3	-6.55E-1	4.48E+0
PENRE	MJ	5.36E+1	9.91E-1	1.34E+0	5.60E+1	6.77E-1	5.91E+0	3.61E-2	-5.24E+1	1.02E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	5.36E+1	9.91E-1	1.34E+0	5.60E+1	6.77E-1	5.91E+0	3.61E-2	-5.24E+1	1.02E+1
PET	MJ	5.53E+1	1.00E+0	4.38E+0	6.06E+1	6.86E-1	6.38E+0	3.73E-2	-5.31E+1	1.47E+1
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	4.79E-2	1.14E-4	1.58E-2	6.39E-2	7.21E-5	3.73E-3	4.17E-5	-1.35E-2	5.42E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.03E-5	2.37E-6	1.67E-6	2.43E-5	1.63E-6	1.17E-5	4.08E-8	-7.72E-6	3.00E-5
NHWD	kg	1.71E-1	5.92E-2	6.96E-3	2.37E-1	3.95E-2	2.67E-1	1.58E-1	-3.91E-2	6.63E-1
RWD	kg	8.42E-5	6.13E-6	2.44E-6	9.28E-5	4.33E-6	2.41E-5	2.22E-7	-2.08E-5	1.01E-4
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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