

Environmental Profile

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

Ecochain v3.5.64



Product: 3080034 - AS+ Pipe LGY DN100 L=2 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

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	9.42E+0	2.72E-1	5.03E-1	1.02E+1	1.82E-1	4.82E+0	3.34E-2	-6.29E+0	8.93E+0
GWP-f	kg CO2 eq	9.43E+0	2.71E-1	4.17E-1	1.01E+1	1.82E-1	4.80E+0	3.33E-2	-6.27E+0	8.86E+0
GWP-b	kg CO2 eq	-1.79E-2	1.25E-4	6.17E-2	4.40E-2	1.10E-4	1.75E-2	6.38E-5	-2.53E-2	3.63E-2
GWP-luluc	kg CO2 eq	5.60E-3	9.94E-5	2.45E-2	3.02E-2	6.43E-5	1.42E-3	1.33E-6	-1.39E-3	3.03E-2
ODP	kg CFC11 eq	6.42E-7	5.99E-8	5.05E-8	7.52E-7	4.19E-8	3.13E-7	2.05E-9	-1.66E-7	9.44E-7
AP	mol H+ eq	3.97E-2	1.57E-3	1.90E-3	4.32E-2	1.04E-3	7.72E-3	4.80E-5	-1.98E-2	3.22E-2
EP-fw	kg P eq	2.30E-4	2.74E-6	5.85E-6	2.39E-4	1.50E-6	6.71E-5	6.02E-8	-7.96E-5	2.28E-4
EP-m	kg N eq	7.28E-3	5.55E-4	5.61E-4	8.40E-3	3.71E-4	2.00E-3	2.77E-5	-3.38E-3	7.41E-3
EP-T	mol N eq	8.30E-2	6.11E-3	5.85E-3	9.49E-2	4.08E-3	2.21E-2	1.96E-4	-3.75E-2	8.38E-2
POCP	kg NMVOC eq	3.00E-2	1.75E-3	1.68E-3	3.34E-2	1.17E-3	6.86E-3	6.25E-5	-1.76E-2	2.39E-2
ADP-mm	kg Sb eq	7.01E-4	6.88E-6	6.86E-6	7.14E-4	4.70E-6	2.76E-5	4.81E-8	-4.86E-5	6.98E-4
ADP-f	MJ	2.14E+2	4.09E+0	5.37E+0	2.23E+2	2.79E+0	2.45E+1	1.48E-1	-2.13E+2	3.78E+1
WDP	m3 depriv.	9.46E+0	1.46E-2	2.93E+0	1.24E+1	8.56E-3	5.47E-1	7.29E-4	-3.95E+0	9.01E+0
PM	disease inc.	3.39E-7	2.44E-8	2.95E-8	3.93E-7	1.64E-8	1.26E-7	1.02E-9	-1.69E-7	3.68E-7
IR	kBq U-235 eq	3.40E-1	1.71E-2	7.72E-3	3.65E-1	1.22E-2	8.45E-2	6.80E-4	-1.03E-1	3.59E-1
ETP-fw	CTUe	2.26E+3	3.65E+0	6.91E+0	2.27E+3	2.27E+0	5.39E+1	1.16E-1	-2.82E+1	2.30E+3
HTP-c	CTUh	3.44E-9	1.18E-10	3.06E-10	3.87E-9	8.06E-11	3.12E-9	3.40E-12	-1.15E-9	5.92E-9
HTP-nc	CTUh	1.09E-6	3.99E-9	7.14E-9	1.10E-6	2.70E-9	4.13E-8	7.01E-11	-3.35E-8	1.11E-6
SQP	Pt	2.65E+1	3.55E+0	5.85E-1	3.07E+1	2.39E+0	1.74E+1	3.77E-1	-5.81E+0	4.50E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	6.86E+0	5.12E-2	1.32E+1	2.01E+1	4.00E-2	2.08E+0	5.26E-3	-2.84E+0	1.94E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	6.86E+0	5.12E-2	1.32E+1	2.01E+1	4.00E-2	2.08E+0	5.26E-3	-2.84E+0	1.94E+1
PENRE	MJ	2.29E+2	4.35E+0	5.85E+0	2.39E+2	2.96E+0	2.60E+1	1.57E-1	-2.29E+2	3.95E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	2.29E+2	4.35E+0	5.85E+0	2.39E+2	2.96E+0	2.60E+1	1.57E-1	-2.29E+2	3.95E+1
PET	MJ	2.36E+2	4.40E+0	1.91E+1	2.59E+2	3.00E+0	2.81E+1	1.63E-1	-2.31E+2	5.89E+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	2.10E-1	4.98E-4	6.90E-2	2.79E-1	3.16E-4	1.64E-2	1.82E-4	-5.90E-2	2.37E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	8.76E-5	1.04E-5	7.28E-6	1.05E-4	7.14E-6	5.16E-5	1.78E-7	-3.28E-5	1.31E-4
NHWD	kg	7.41E-1	2.60E-1	3.03E-2	1.03E+0	1.73E-1	1.17E+0	6.92E-1	-1.71E-1	2.90E+0
RWD	kg	3.60E-4	2.69E-5	1.06E-5	3.98E-4	1.90E-5	1.06E-4	9.71E-7	-9.06E-5	4.34E-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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