

Environmental Profile

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

Ecochain v3.5.64



Product: 3080032 - AS+ Pipe LGY DN100 L=0,5 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
 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

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	2.68E+0	7.62E-2	1.36E-1	2.89E+0	5.10E-2	1.39E+0	9.50E-3	-1.78E+0	2.57E+0
GWP-f	kg CO2 eq	2.68E+0	7.62E-2	1.13E-1	2.87E+0	5.10E-2	1.39E+0	9.49E-3	-1.77E+0	2.55E+0
GWP-b	kg CO2 eq	-6.91E-3	3.52E-5	1.67E-2	9.86E-3	3.10E-5	5.84E-3	1.80E-5	-7.06E-3	8.68E-3
GWP-luluc	kg CO2 eq	1.60E-3	2.79E-5	6.65E-3	8.28E-3	1.80E-5	3.95E-4	3.74E-7	-3.90E-4	8.30E-3
ODP	kg CFC11 eq	1.90E-7	1.68E-8	1.37E-8	2.20E-7	1.17E-8	8.75E-8	5.78E-10	-4.86E-8	2.72E-7
AP	mol H+ eq	1.14E-2	4.42E-4	5.16E-4	1.23E-2	2.90E-4	2.16E-3	1.35E-5	-5.54E-3	9.25E-3
EP-fw	kg P eq	6.59E-5	7.68E-7	1.59E-6	6.83E-5	4.20E-7	1.87E-5	1.70E-8	-2.23E-5	6.52E-5
EP-m	kg N eq	2.08E-3	1.56E-4	1.52E-4	2.39E-3	1.04E-4	5.62E-4	7.96E-6	-9.51E-4	2.11E-3
EP-T	mol N eq	2.37E-2	1.72E-3	1.59E-3	2.70E-2	1.15E-3	6.21E-3	5.52E-5	-1.05E-2	2.38E-2
POCP	kg NMVOC eq	8.60E-3	4.90E-4	4.54E-4	9.55E-3	3.27E-4	1.92E-3	1.76E-5	-4.94E-3	6.87E-3
ADP-mm	kg Sb eq	2.12E-4	1.93E-6	1.86E-6	2.16E-4	1.32E-6	7.72E-6	1.36E-8	-1.41E-5	2.11E-4
ADP-f	MJ	6.11E+1	1.15E+0	1.46E+0	6.37E+1	7.83E-1	6.84E+0	4.18E-2	-5.97E+1	1.16E+1
WDP	m3 depriv.	2.67E+0	4.11E-3	7.95E-1	3.47E+0	2.40E-3	1.53E-1	2.05E-4	-1.11E+0	2.52E+0
PM	disease inc.	9.81E-8	6.84E-9	7.99E-9	1.13E-7	4.60E-9	3.52E-8	2.86E-10	-4.73E-8	1.06E-7
IR	kBq U-235 eq	9.90E-2	4.81E-3	2.09E-3	1.06E-1	3.42E-3	2.36E-2	1.92E-4	-2.90E-2	1.04E-1
ETP-fw	CTUe	6.31E+2	1.02E+0	1.87E+0	6.34E+2	6.35E-1	1.51E+1	3.32E-2	-7.93E+0	6.42E+2
HTP-c	CTUh	9.85E-10	3.32E-11	8.30E-11	1.10E-9	2.26E-11	8.73E-10	9.60E-13	-3.22E-10	1.68E-9
HTP-nc	CTUh	3.05E-7	1.12E-9	1.94E-9	3.08E-7	7.58E-10	1.16E-8	1.99E-11	-9.39E-9	3.11E-7
SQP	Pt	7.77E+0	9.97E-1	1.59E-1	8.93E+0	6.70E-1	4.87E+0	1.06E-1	-1.66E+0	1.29E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.99E+0	1.44E-2	3.59E+0	5.59E+0	1.12E-2	5.80E-1	1.49E-3	-8.01E-1	5.38E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.99E+0	1.44E-2	3.59E+0	5.59E+0	1.12E-2	5.80E-1	1.49E-3	-8.01E-1	5.38E+0
PENRE	MJ	6.54E+1	1.22E+0	1.59E+0	6.82E+1	8.31E-1	7.28E+0	4.43E-2	-6.42E+1	1.22E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.54E+1	1.22E+0	1.59E+0	6.82E+1	8.31E-1	7.28E+0	4.43E-2	-6.42E+1	1.22E+1
PET	MJ	6.74E+1	1.23E+0	5.17E+0	7.38E+1	8.42E-1	7.86E+0	4.58E-2	-6.50E+1	1.75E+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	5.93E-2	1.40E-4	1.87E-2	7.82E-2	8.86E-5	4.62E-3	5.13E-5	-1.65E-2	6.64E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.52E-5	2.91E-6	1.97E-6	3.01E-5	2.00E-6	1.44E-5	5.01E-8	-9.57E-6	3.70E-5
NHWD	kg	2.11E-1	7.29E-2	8.22E-3	2.93E-1	4.85E-2	3.29E-1	1.95E-1	-4.79E-2	8.17E-1
RWD	kg	1.06E-4	7.54E-6	2.89E-6	1.16E-4	5.32E-6	2.97E-5	2.73E-7	-2.56E-5	1.26E-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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