

# Environmental Profile

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

Ecochain v3.5.64



Product: 3080057 - AS+ Pipe LGY DN50 L=0,15 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]

## Statement of Confidentiality

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# Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	3.75E-1	1.29E-2	1.56E-2	4.04E-1	5.14E-3	2.00E-1	1.08E-3	-1.81E-1	4.29E-1
GWP-f	kg CO2 eq	3.75E-1	1.29E-2	1.28E-2	4.01E-1	5.14E-3	1.73E-1	1.08E-3	-2.42E-1	3.38E-1
GWP-b	kg CO2 eq	-1.00E-4	5.95E-6	1.91E-3	1.82E-3	3.12E-6	2.75E-2	2.08E-6	6.09E-2	9.02E-2
GWP-luluc	kg CO2 eq	5.48E-4	4.72E-6	9.80E-4	1.53E-3	1.82E-6	4.34E-5	4.26E-8	-4.74E-4	1.10E-3
ODP	kg CFC11 eq	3.34E-8	2.84E-9	1.46E-9	3.78E-8	1.18E-9	1.06E-8	6.20E-11	-1.06E-8	3.90E-8
AP	mol H+ eq	1.71E-3	7.48E-5	6.14E-5	1.85E-3	2.93E-5	2.61E-4	1.48E-6	-9.30E-4	1.21E-3
EP-fw	kg P eq	1.20E-5	1.30E-7	1.94E-7	1.23E-5	4.23E-8	2.16E-6	1.94E-9	-7.90E-6	6.64E-6
EP-m	kg N eq	3.58E-4	2.63E-5	1.61E-5	4.00E-4	1.05E-5	7.08E-5	9.27E-7	-1.77E-4	3.06E-4
EP-T	mol N eq	3.90E-3	2.90E-4	1.70E-4	4.36E-3	1.15E-4	7.81E-4	6.01E-6	-2.00E-3	3.26E-3
POCP	kg NMVOC eq	1.26E-3	8.29E-5	4.88E-5	1.39E-3	3.30E-5	2.39E-4	1.93E-6	-7.63E-4	8.98E-4
ADP-mm	kg Sb eq	3.15E-5	3.27E-7	2.63E-7	3.21E-5	1.33E-7	9.29E-7	1.50E-9	-2.23E-6	3.10E-5
ADP-f	MJ	7.77E+0	1.94E-1	1.61E-1	8.13E+0	7.88E-2	7.77E-1	4.52E-3	-7.52E+0	1.47E+0
WDP	m3 depriv.	3.42E-1	6.95E-4	9.54E-2	4.38E-1	2.42E-4	1.71E-2	2.64E-5	-2.15E-1	2.40E-1
PM	disease inc.	1.70E-8	1.16E-9	8.33E-10	1.90E-8	4.64E-10	4.16E-9	3.11E-11	-1.13E-8	1.24E-8
IR	kBq U-235 eq	1.54E-2	8.14E-4	2.15E-4	1.64E-2	3.45E-4	2.78E-3	2.08E-5	-7.18E-3	1.24E-2
ETP-fw	CTUe	8.42E+1	1.73E-1	2.45E-1	8.46E+1	6.40E-2	1.84E+0	3.82E-3	-5.55E+0	8.10E+1
HTP-c	CTUh	1.56E-10	5.62E-12	1.05E-11	1.72E-10	2.28E-12	1.04E-10	1.12E-13	-7.33E-11	2.06E-10
HTP-nc	CTUh	3.79E-8	1.90E-10	2.58E-10	3.84E-8	7.63E-11	1.35E-9	2.27E-12	-2.30E-9	3.75E-8
SQP	Pt	3.47E+0	1.69E-1	1.56E-2	3.65E+0	6.74E-2	5.34E-1	1.16E-2	-1.12E+1	-6.98E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	7.58E-1	2.43E-3	5.28E-1	1.29E+0	1.13E-3	6.67E-2	1.68E-4	-2.10E+0	-7.40E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	7.58E-1	2.43E-3	5.28E-1	1.29E+0	1.13E-3	6.67E-2	1.68E-4	-2.10E+0	-7.40E-1
PENRE	MJ	8.33E+0	2.06E-1	1.75E-1	8.71E+0	8.37E-2	8.27E-1	4.80E-3	-8.08E+0	1.55E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	8.33E+0	2.06E-1	1.75E-1	8.71E+0	8.37E-2	8.27E-1	4.80E-3	-8.08E+0	1.55E+0
PET	MJ	9.09E+0	2.09E-1	7.04E-1	1.00E+1	8.48E-2	8.94E-1	4.97E-3	-1.02E+1	8.05E-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	8.01E-3	2.37E-5	2.25E-3	1.03E-2	8.92E-6	5.42E-4	5.55E-6	-4.20E-3	6.64E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	4.44E-6	4.93E-7	1.98E-7	5.13E-6	2.02E-7	1.74E-6	5.48E-9	-1.97E-6	5.12E-6
NHWD	kg	3.74E-2	1.23E-2	8.05E-4	5.05E-2	4.89E-3	3.74E-2	1.99E-2	-1.04E-2	1.02E-1
RWD	kg	1.67E-5	1.28E-6	2.83E-7	1.83E-5	5.36E-7	3.55E-6	2.94E-8	-6.62E-6	1.58E-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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