

# Environmental Profile

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

Ecochain v3.5.64



Product: 3080043 - AS+ Pipe LGY DN125 L=3 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	☑	☑	☑	☑
<b>Product stage</b>					<b>Use stage</b>							<b>End-of-Life stage</b>				
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				
<b>Construction process stage</b>					<b>Benefits and loads beyond the system boundaries</b>											
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]

## 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	1.59E+1	4.60E-1	8.53E-1	1.72E+1	3.08E-1	8.15E+0	5.64E-2	-1.06E+1	1.51E+1
GWP-f	kg CO2 eq	1.59E+1	4.59E-1	7.07E-1	1.71E+1	3.08E-1	8.11E+0	5.63E-2	-1.06E+1	1.50E+1
GWP-b	kg CO2 eq	-2.92E-2	2.12E-4	1.05E-1	7.57E-2	1.87E-4	2.87E-2	1.08E-4	-4.29E-2	6.18E-2
GWP-luluc	kg CO2 eq	9.46E-3	1.68E-4	4.16E-2	5.12E-2	1.09E-4	2.39E-3	2.24E-6	-2.35E-3	5.14E-2
ODP	kg CFC11 eq	1.08E-6	1.01E-7	8.57E-8	1.27E-6	7.09E-8	5.30E-7	3.47E-9	-2.80E-7	1.60E-6
AP	mol H+ eq	6.71E-2	2.66E-3	3.23E-3	7.30E-2	1.75E-3	1.31E-2	8.13E-5	-3.35E-2	5.44E-2
EP-fw	kg P eq	3.89E-4	4.63E-6	9.93E-6	4.04E-4	2.53E-6	1.14E-4	1.02E-7	-1.35E-4	3.85E-4
EP-m	kg N eq	1.23E-2	9.38E-4	9.51E-4	1.42E-2	6.27E-4	3.39E-3	4.68E-5	-5.72E-3	1.25E-2
EP-T	mol N eq	1.40E-1	1.03E-2	9.92E-3	1.61E-1	6.91E-3	3.74E-2	3.31E-4	-6.35E-2	1.42E-1
POCP	kg NMVOC eq	5.07E-2	2.95E-3	2.84E-3	5.65E-2	1.98E-3	1.16E-2	1.06E-4	-2.98E-2	4.04E-2
ADP-mm	kg Sb eq	1.18E-3	1.16E-5	1.16E-5	1.21E-3	7.96E-6	4.67E-5	8.14E-8	-8.22E-5	1.18E-3
ADP-f	MJ	3.61E+2	6.93E+0	9.10E+0	3.77E+2	4.72E+0	4.14E+1	2.51E-1	-3.60E+2	6.38E+1
WDP	m3 depriv.	1.60E+1	2.48E-2	4.97E+0	2.10E+1	1.45E-2	9.26E-1	1.23E-3	-6.69E+0	1.53E+1
PM	disease inc.	5.74E-7	4.12E-8	5.00E-8	6.65E-7	2.78E-8	2.13E-7	1.72E-9	-2.86E-7	6.21E-7
IR	kBq U-235 eq	5.75E-1	2.90E-2	1.31E-2	6.17E-1	2.06E-2	1.43E-1	1.15E-3	-1.75E-1	6.07E-1
ETP-fw	CTUe	3.83E+3	6.18E+0	1.17E+1	3.84E+3	3.83E+0	9.12E+1	1.96E-1	-4.77E+1	3.89E+3
HTP-c	CTUh	5.82E-9	2.00E-10	5.19E-10	6.54E-9	1.36E-10	5.28E-9	5.76E-12	-1.94E-9	1.00E-8
HTP-nc	CTUh	1.85E-6	6.75E-9	1.21E-8	1.87E-6	4.57E-9	6.99E-8	1.19E-10	-5.67E-8	1.89E-6
SQP	Pt	4.48E+1	6.01E+0	9.92E-1	5.18E+1	4.04E+0	2.95E+1	6.37E-1	-9.82E+0	7.61E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.16E+1	8.67E-2	2.24E+1	3.41E+1	6.77E-2	3.52E+0	8.91E-3	-4.81E+0	3.29E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.16E+1	8.67E-2	2.24E+1	3.41E+1	6.77E-2	3.52E+0	8.91E-3	-4.81E+0	3.29E+1
PENRE	MJ	3.87E+2	7.35E+0	9.92E+0	4.04E+2	5.01E+0	4.41E+1	2.66E-1	-3.87E+2	6.66E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.87E+2	7.35E+0	9.92E+0	4.04E+2	5.01E+0	4.41E+1	2.66E-1	-3.87E+2	6.66E+1
PET	MJ	3.98E+2	7.44E+0	3.23E+1	4.38E+2	5.08E+0	4.76E+1	2.75E-1	-3.91E+2	9.95E+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	3.54E-1	8.43E-4	1.17E-1	4.72E-1	5.34E-4	2.77E-2	3.08E-4	-9.97E-2	4.01E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.48E-4	1.75E-5	1.23E-5	1.78E-4	1.21E-5	8.73E-5	3.01E-7	-5.54E-5	2.22E-4
NHWD	kg	1.25E+0	4.39E-1	5.14E-2	1.74E+0	2.93E-1	1.99E+0	1.17E+0	-2.89E-1	4.91E+0
RWD	kg	6.09E-4	4.55E-5	1.81E-5	6.72E-4	3.21E-5	1.80E-4	1.64E-6	-1.53E-4	7.33E-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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