

# Environmental Profile

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

Ecochain v3.5.64



Product: 3080038 - AS+ Pipe LGY DN125 L=0,25 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	1.97E+0	7.28E-2	1.00E-1	2.14E+0	3.09E-2	1.02E+0	6.34E-3	-1.19E+0	2.01E+0
GWP-f	kg CO2 eq	1.97E+0	7.27E-2	8.16E-2	2.12E+0	3.08E-2	9.67E-1	6.34E-3	-1.29E+0	1.84E+0
GWP-b	kg CO2 eq	-3.16E-3	3.36E-5	1.22E-2	9.09E-3	1.87E-5	5.06E-2	1.24E-5	1.03E-1	1.63E-1
GWP-luluc	kg CO2 eq	1.78E-3	2.66E-5	6.27E-3	8.07E-3	1.09E-5	2.55E-4	2.54E-7	-1.02E-3	7.32E-3
ODP	kg CFC11 eq	1.58E-7	1.60E-8	9.31E-9	1.84E-7	7.11E-9	6.06E-8	3.70E-10	-4.21E-8	2.10E-7
AP	mol H+ eq	8.71E-3	4.22E-4	3.93E-4	9.52E-3	1.76E-4	1.44E-3	8.82E-6	-4.35E-3	6.79E-3
EP-fw	kg P eq	5.41E-5	7.33E-7	1.24E-6	5.60E-5	2.54E-7	1.27E-5	1.16E-8	-2.47E-5	4.43E-5
EP-m	kg N eq	1.66E-3	1.49E-4	1.03E-4	1.91E-3	6.28E-5	3.77E-4	5.36E-6	-7.76E-4	1.58E-3
EP-T	mol N eq	1.87E-2	1.64E-3	1.09E-3	2.14E-2	6.93E-4	4.17E-3	3.58E-5	-8.66E-3	1.77E-2
POCP	kg NMVOC eq	6.39E-3	4.68E-4	3.12E-4	7.17E-3	1.98E-4	1.28E-3	1.15E-5	-3.77E-3	4.89E-3
ADP-mm	kg Sb eq	1.68E-4	1.84E-6	1.68E-6	1.72E-4	7.98E-7	5.06E-6	8.95E-9	-1.12E-5	1.67E-4
ADP-f	MJ	4.18E+1	1.10E+0	1.03E+0	4.39E+1	4.73E-1	4.45E+0	2.70E-2	-4.26E+1	6.30E+0
WDP	m3 depriv.	1.94E+0	3.92E-3	6.10E-1	2.55E+0	1.45E-3	1.01E-1	1.58E-4	-9.21E-1	1.73E+0
PM	disease inc.	7.91E-8	6.53E-9	5.32E-9	9.09E-8	2.78E-9	2.31E-8	1.86E-10	-4.30E-8	7.40E-8
IR	kBq U-235 eq	7.68E-2	4.59E-3	1.37E-3	8.27E-2	2.07E-3	1.57E-2	1.24E-4	-2.68E-2	7.39E-2
ETP-fw	CTUe	4.75E+2	9.78E-1	1.57E+0	4.78E+2	3.84E-1	1.06E+1	2.23E-2	-1.35E+1	4.76E+2
HTP-c	CTUh	7.86E-10	3.17E-11	6.71E-11	8.85E-10	1.37E-11	5.90E-10	6.65E-13	-2.87E-10	1.20E-9
HTP-nc	CTUh	2.25E-7	1.07E-9	1.65E-9	2.28E-7	4.58E-10	7.68E-9	1.34E-11	-8.65E-9	2.27E-7
SQP	Pt	9.98E+0	9.51E-1	9.98E-2	1.10E+1	4.05E-1	3.08E+0	6.93E-2	-2.05E+1	-5.89E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	2.30E+0	1.37E-2	3.38E+0	5.69E+0	6.79E-3	3.96E-1	1.00E-3	-4.06E+0	2.04E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	2.30E+0	1.37E-2	3.38E+0	5.69E+0	6.79E-3	3.96E-1	1.00E-3	-4.06E+0	2.04E+0
PENRE	MJ	4.47E+1	1.16E+0	1.12E+0	4.70E+1	5.03E-1	4.73E+0	2.86E-2	-4.58E+1	6.54E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	4.47E+1	1.16E+0	1.12E+0	4.70E+1	5.03E-1	4.73E+0	2.86E-2	-4.58E+1	6.54E+0
PET	MJ	4.70E+1	1.18E+0	4.50E+0	5.27E+1	5.09E-1	5.13E+0	2.96E-2	-4.98E+1	8.58E+0
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	4.41E-2	1.34E-4	1.44E-2	5.86E-2	5.36E-5	3.12E-3	3.31E-5	-1.54E-2	4.64E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.11E-5	2.78E-6	1.26E-6	2.51E-5	1.21E-6	9.82E-6	3.27E-8	-8.04E-6	2.81E-5
NHWD	kg	1.75E-1	6.95E-2	5.15E-3	2.50E-1	2.93E-2	2.14E-1	1.19E-1	-4.18E-2	5.70E-1
RWD	kg	8.30E-5	7.20E-6	1.81E-6	9.20E-5	3.22E-6	1.99E-5	1.76E-7	-2.42E-5	9.11E-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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