

Environmental Profile

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

Ecochain v3.5.64



Product: 3080031 - AS+ Pipe LGY DN100 L=0,25 S/PL
 Unit: 1 piece
 Manufacturer: Wavin Germany Twist
 Address: Industriestraße 20
 49767 Twist
 Germany
 Contact: <https://www.wavin.com/en-en>

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	1.69E+0	6.35E-2	8.78E-2	1.84E+0	2.70E-2	8.64E-1	5.46E-3	-1.04E+0	1.70E+0
GWP-f	kg CO2 eq	1.69E+0	6.34E-2	7.16E-2	1.83E+0	2.69E-2	8.24E-1	5.46E-3	-1.12E+0	1.57E+0
GWP-b	kg CO2 eq	-2.44E-3	2.93E-5	1.07E-2	8.31E-3	1.64E-5	4.01E-2	1.08E-5	8.06E-2	1.29E-1
GWP-luluc	kg CO2 eq	1.49E-3	2.32E-5	5.50E-3	7.01E-3	9.54E-6	2.23E-4	2.21E-7	-8.26E-4	6.42E-3
ODP	kg CFC11 eq	1.32E-7	1.40E-8	8.17E-9	1.54E-7	6.21E-9	5.30E-8	3.22E-10	-3.50E-8	1.79E-7
AP	mol H+ eq	7.45E-3	3.68E-4	3.44E-4	8.16E-3	1.54E-4	1.26E-3	7.67E-6	-3.76E-3	5.81E-3
EP-fw	kg P eq	4.60E-5	6.40E-7	1.09E-6	4.77E-5	2.22E-7	1.12E-5	1.01E-8	-2.08E-5	3.83E-5
EP-m	kg N eq	1.42E-3	1.30E-4	9.04E-5	1.64E-3	5.49E-5	3.28E-4	4.57E-6	-6.68E-4	1.36E-3
EP-T	mol N eq	1.60E-2	1.43E-3	9.55E-4	1.84E-2	6.05E-4	3.62E-3	3.12E-5	-7.45E-3	1.52E-2
POCP	kg NMVOC eq	5.46E-3	4.08E-4	2.74E-4	6.14E-3	1.73E-4	1.11E-3	9.99E-6	-3.27E-3	4.17E-3
ADP-mm	kg Sb eq	1.38E-4	1.61E-6	1.47E-6	1.41E-4	6.97E-7	4.41E-6	7.79E-9	-9.45E-6	1.37E-4
ADP-f	MJ	3.58E+1	9.56E-1	9.03E-1	3.76E+1	4.14E-1	3.89E+0	2.35E-2	-3.71E+1	4.89E+0
WDP	m3 depriv.	1.68E+0	3.42E-3	5.35E-1	2.22E+0	1.27E-3	8.82E-2	1.38E-4	-7.93E-1	1.52E+0
PM	disease inc.	6.69E-8	5.69E-9	4.67E-9	7.72E-8	2.43E-9	2.02E-8	1.62E-10	-3.68E-8	6.33E-8
IR	kBq U-235 eq	6.47E-2	4.01E-3	1.20E-3	6.99E-2	1.81E-3	1.37E-2	1.08E-4	-2.28E-2	6.28E-2
ETP-fw	CTUe	4.16E+2	8.53E-1	1.37E+0	4.18E+2	3.36E-1	9.23E+0	1.91E-2	-1.11E+1	4.17E+2
HTP-c	CTUh	6.72E-10	2.77E-11	5.89E-11	7.59E-10	1.20E-11	5.17E-10	5.79E-13	-2.45E-10	1.04E-9
HTP-nc	CTUh	1.97E-7	9.33E-10	1.45E-9	1.99E-7	4.00E-10	6.71E-9	1.16E-11	-7.38E-9	1.99E-7
SQP	Pt	8.21E+0	8.30E-1	8.76E-2	9.13E+0	3.54E-1	2.70E+0	6.03E-2	-1.62E+1	-3.94E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	1.91E+0	1.20E-2	2.96E+0	4.88E+0	5.93E-3	3.47E-1	8.69E-4	-3.24E+0	2.00E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	1.91E+0	1.20E-2	2.96E+0	4.88E+0	5.93E-3	3.47E-1	8.69E-4	-3.24E+0	2.00E+0
PENRE	MJ	3.83E+1	1.02E+0	9.83E-1	4.03E+1	4.39E-1	4.14E+0	2.49E-2	-3.99E+1	5.06E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.83E+1	1.02E+0	9.83E-1	4.03E+1	4.39E-1	4.14E+0	2.49E-2	-3.99E+1	5.06E+0
PET	MJ	4.02E+1	1.03E+0	3.95E+0	4.52E+1	4.45E-1	4.49E+0	2.58E-2	-4.31E+1	7.06E+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	3.82E-2	1.16E-4	1.26E-2	5.09E-2	4.68E-5	2.71E-3	2.88E-5	-1.32E-2	4.05E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.79E-5	2.42E-6	1.11E-6	2.14E-5	1.06E-6	8.57E-6	2.85E-8	-6.72E-6	2.44E-5
NHWD	kg	1.50E-1	6.07E-2	4.52E-3	2.15E-1	2.56E-2	1.87E-1	1.04E-1	-3.58E-2	4.95E-1
RWD	kg	6.94E-5	6.28E-6	1.59E-6	7.73E-5	2.81E-6	1.74E-5	1.53E-7	-2.05E-5	7.72E-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



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777