

Environmental Profile

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

Ecochain v3.5.64



Product: 3080069 - AS+ Pipe LGY DN70 L=2,7 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	5.60E+0	1.60E-1	3.02E-1	6.07E+0	1.08E-1	2.85E+0	2.01E-2	-3.74E+0	5.31E+0
GWP-f	kg CO2 eq	5.61E+0	1.60E-1	2.50E-1	6.02E+0	1.08E-1	2.84E+0	2.01E-2	-3.72E+0	5.27E+0
GWP-b	kg CO2 eq	-1.05E-2	7.40E-5	3.71E-2	2.66E-2	6.53E-5	1.07E-2	3.78E-5	-1.50E-2	2.24E-2
GWP-luluc	kg CO2 eq	3.30E-3	5.88E-5	1.47E-2	1.81E-2	3.81E-5	8.34E-4	7.86E-7	-8.24E-4	1.81E-2
ODP	kg CFC11 eq	3.77E-7	3.54E-8	3.04E-8	4.43E-7	2.48E-8	1.84E-7	1.22E-9	-9.91E-8	5.53E-7
AP	mol H+ eq	2.36E-2	9.30E-4	1.14E-3	2.56E-2	6.13E-4	4.55E-3	2.84E-5	-1.17E-2	1.91E-2
EP-fw	kg P eq	1.36E-4	1.62E-6	3.52E-6	1.41E-4	8.85E-7	3.94E-5	3.57E-8	-4.72E-5	1.34E-4
EP-m	kg N eq	4.32E-3	3.28E-4	3.37E-4	4.98E-3	2.19E-4	1.18E-3	1.64E-5	-2.01E-3	4.39E-3
EP-T	mol N eq	4.92E-2	3.61E-3	3.52E-3	5.63E-2	2.42E-3	1.31E-2	1.16E-4	-2.23E-2	4.96E-2
POCP	kg NMVOC eq	1.78E-2	1.03E-3	1.01E-3	1.99E-2	6.91E-4	4.05E-3	3.71E-5	-1.05E-2	1.42E-2
ADP-mm	kg Sb eq	4.10E-4	4.06E-6	4.12E-6	4.19E-4	2.78E-6	1.63E-5	2.85E-8	-2.88E-5	4.09E-4
ADP-f	MJ	1.28E+2	2.42E+0	3.22E+0	1.34E+2	1.65E+0	1.44E+1	8.78E-2	-1.26E+2	2.40E+1
WDP	m3 depriv.	5.60E+0	8.65E-3	1.76E+0	7.37E+0	5.07E-3	3.22E-1	4.33E-4	-2.34E+0	5.36E+0
PM	disease inc.	2.01E-7	1.44E-8	1.77E-8	2.34E-7	9.71E-9	7.43E-8	6.01E-10	-1.00E-7	2.18E-7
IR	kBq U-235 eq	2.00E-1	1.01E-2	4.64E-3	2.15E-1	7.22E-3	4.97E-2	4.02E-4	-6.12E-2	2.11E-1
ETP-fw	CTUe	1.32E+3	2.16E+0	4.15E+0	1.33E+3	1.34E+0	3.16E+1	6.88E-2	-1.67E+1	1.34E+3
HTP-c	CTUh	2.03E-9	7.00E-11	1.84E-10	2.29E-9	4.77E-11	1.84E-9	2.02E-12	-6.80E-10	3.50E-9
HTP-nc	CTUh	6.38E-7	2.36E-9	4.29E-9	6.45E-7	1.60E-9	2.44E-8	4.16E-11	-1.99E-8	6.51E-7
SQP	Pt	1.57E+1	2.10E+0	3.51E-1	1.81E+1	1.41E+0	1.03E+1	2.23E-1	-3.46E+0	2.66E+1
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.07E+0	3.03E-2	7.95E+0	1.20E+1	2.37E-2	1.22E+0	3.12E-3	-1.69E+0	1.16E+1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.07E+0	3.03E-2	7.95E+0	1.20E+1	2.37E-2	1.22E+0	3.12E-3	-1.69E+0	1.16E+1
PENRE	MJ	1.37E+2	2.57E+0	3.51E+0	1.44E+2	1.75E+0	1.54E+1	9.32E-2	-1.36E+2	2.51E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.37E+2	2.57E+0	3.51E+0	1.44E+2	1.75E+0	1.54E+1	9.32E-2	-1.36E+2	2.51E+1
PET	MJ	1.42E+2	2.60E+0	1.15E+1	1.56E+2	1.78E+0	1.66E+1	9.63E-2	-1.37E+2	3.67E+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	1.24E-1	2.95E-4	4.14E-2	1.65E-1	1.87E-4	9.63E-3	1.08E-4	-3.50E-2	1.40E-1

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	5.16E-5	6.13E-6	4.38E-6	6.21E-5	4.22E-6	3.04E-5	1.05E-7	-1.96E-5	7.72E-5
NHWD	kg	4.37E-1	1.53E-1	1.82E-2	6.09E-1	1.02E-1	6.92E-1	4.10E-1	-1.01E-1	1.71E+0
RWD	kg	2.12E-4	1.59E-5	6.40E-6	2.34E-4	1.12E-5	6.27E-5	5.75E-7	-5.38E-5	2.55E-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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