

Environmental Profile

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

Ecochain v3.5.64



Product: 3080036 - AS+ Pipe LGY DN100 L=3 S/PL per meter
 Unit: 1 meter
 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	☑	☑	☑	☑
Product stage					Use stage							End-of-Life stage				
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				
Construction process stage					Benefits and loads beyond the system boundaries											
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]

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	A4	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	4.64E+0	1.34E-1	2.49E-1	5.02E+0	4.82E-1	8.97E-2	2.37E+0	1.64E-2	-5.38E+0	2.60E+0
GWP-f	kg CO2 eq	4.64E+0	1.34E-1	2.06E-1	4.98E+0	4.81E-1	8.97E-2	2.36E+0	1.64E-2	-5.37E+0	2.56E+0
GWP-b	kg CO2 eq	-8.36E-3	6.18E-5	3.05E-2	2.22E-2	2.42E-4	5.45E-5	8.36E-3	3.14E-5	-9.47E-3	2.14E-2
GWP-luluc	kg CO2 eq	2.75E-3	4.90E-5	1.21E-2	1.49E-2	1.87E-4	3.17E-5	6.98E-4	6.54E-7	-1.93E-3	1.39E-2
ODP	kg CFC11 eq	3.14E-7	2.95E-8	2.50E-8	3.69E-7	1.09E-7	2.07E-8	1.54E-7	1.01E-9	-2.48E-7	4.06E-7
AP	mol H+ eq	1.95E-2	7.76E-4	9.42E-4	2.12E-2	4.38E-3	5.11E-4	3.81E-3	2.37E-5	-1.86E-2	1.13E-2
EP-fw	kg P eq	1.13E-4	1.35E-6	2.89E-6	1.17E-4	3.69E-6	7.38E-7	3.31E-5	2.97E-8	-9.03E-5	6.47E-5
EP-m	kg N eq	3.58E-3	2.74E-4	2.77E-4	4.14E-3	1.35E-3	1.83E-4	9.87E-4	1.36E-5	-3.33E-3	3.35E-3
EP-T	mol N eq	4.08E-2	3.02E-3	2.89E-3	4.67E-2	1.49E-2	2.01E-3	1.09E-2	9.66E-5	-3.72E-2	3.75E-2
POCP	kg NMVOC eq	1.47E-2	8.61E-4	8.28E-4	1.64E-2	4.12E-3	5.76E-4	3.38E-3	3.08E-5	-1.56E-2	8.99E-3
ADP-mm	kg Sb eq	3.42E-4	3.39E-6	3.39E-6	3.49E-4	1.13E-5	2.32E-6	1.36E-5	2.37E-8	-1.72E-4	2.04E-4
ADP-f	MJ	1.05E+2	2.02E+0	2.65E+0	1.10E+2	7.23E+0	1.38E+0	1.21E+1	7.31E-2	-1.56E+2	-2.59E+1
WDP	m3 depriv.	4.66E+0	7.22E-3	1.45E+0	6.12E+0	2.08E-2	4.22E-3	2.70E-1	3.60E-4	-4.13E+0	2.29E+0
PM	disease inc.	1.67E-7	1.20E-8	1.46E-8	1.93E-7	3.98E-8	8.09E-9	6.21E-8	5.01E-10	-1.59E-7	1.45E-7
IR	kBq U-235 eq	1.67E-1	8.46E-3	3.81E-3	1.79E-1	3.15E-2	6.02E-3	4.17E-2	3.35E-4	-1.29E-1	1.30E-1
ETP-fw	CTUe	1.12E+3	1.80E+0	3.42E+0	1.12E+3	5.73E+0	1.12E+0	2.66E+1	5.71E-2	-5.35E+2	6.19E+2
HTP-c	CTUh	1.69E-9	5.84E-11	1.51E-10	1.90E-9	2.18E-10	3.98E-11	1.54E-9	1.68E-12	-1.31E-9	2.39E-9
HTP-nc	CTUh	5.39E-7	1.97E-9	3.53E-9	5.44E-7	6.63E-9	1.33E-9	2.04E-8	3.45E-11	-2.68E-7	3.05E-7
SQP	Pt	1.30E+1	1.75E+0	2.89E-1	1.50E+1	5.63E+0	1.18E+0	8.60E+0	1.86E-1	-8.38E+0	2.23E+1
Resource use	Unit	A1	A2	A3	A1-A3	A4	C2	C3	C4	D	Total
PERE	MJ	3.37E+0	2.53E-2	6.54E+0	9.94E+0	9.75E-2	1.97E-2	1.03E+0	2.59E-3	-2.95E+0	8.13E+0
PERM	MJ	0	0	0	0	0	0	0	0	0	0
PERT	MJ	3.37E+0	2.53E-2	6.54E+0	9.94E+0	9.75E-2	1.97E-2	1.03E+0	2.59E-3	-2.95E+0	8.13E+0
PENRE	MJ	1.13E+2	2.14E+0	2.89E+0	1.18E+2	7.68E+0	1.46E+0	1.28E+1	7.76E-2	-1.68E+2	-2.84E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.13E+2	2.14E+0	2.89E+0	1.18E+2	7.68E+0	1.46E+0	1.28E+1	7.76E-2	-1.68E+2	-2.84E+1
PET	MJ	1.16E+2	2.17E+0	9.43E+0	1.27E+2	7.77E+0	1.48E+0	1.39E+1	8.02E-2	-1.71E+2	-2.02E+1
SM	kg	0	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0	0
FW	m3	1.03E-1	2.46E-4	3.41E-2	1.38E-1	7.68E-4	1.56E-4	8.06E-3	8.98E-5	-7.66E-2	7.00E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	A4	C2	C3	C4	D	Total
HWD	kg	4.31E-5	5.12E-6	3.60E-6	5.18E-5	1.72E-5	3.52E-6	2.55E-5	8.77E-8	-3.74E-5	6.06E-5
NHWD	kg	3.65E-1	1.28E-1	1.50E-2	5.08E-1	4.02E-1	8.53E-2	5.79E-1	3.41E-1	-2.39E-1	1.68E+0
RWD	kg	1.77E-4	1.33E-5	5.26E-6	1.95E-4	4.93E-5	9.36E-6	5.25E-5	4.79E-7	-1.27E-4	1.79E-4
CRU	kg	0	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0	0



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