

Environmental Profile

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

Ecochain v3.5.64



Product: 3080059 - AS+ Pipe LGY DN50 L=0,5 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					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	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.63E-1	1.83E-2	3.38E-2	7.15E-1	1.23E-2	3.45E-1	2.45E-3	-4.36E-1	6.39E-1
GWP-f	kg CO2 eq	6.65E-1	1.83E-2	2.80E-2	7.12E-1	1.23E-2	3.43E-1	2.44E-3	-4.35E-1	6.35E-1
GWP-b	kg CO2 eq	-2.23E-3	8.46E-6	4.15E-3	1.93E-3	7.48E-6	1.97E-3	4.39E-6	-1.71E-3	2.20E-3
GWP-luluc	kg CO2 eq	3.89E-4	6.71E-6	1.65E-3	2.04E-3	4.36E-6	9.44E-5	9.13E-8	-9.49E-5	2.05E-3
ODP	kg CFC11 eq	4.69E-8	4.04E-9	3.40E-9	5.43E-8	2.84E-9	2.07E-8	1.40E-10	-1.24E-8	6.56E-8
AP	mol H+ eq	2.81E-3	1.06E-4	1.28E-4	3.05E-3	7.02E-5	5.17E-4	3.29E-6	-1.35E-3	2.29E-3
EP-fw	kg P eq	1.61E-5	1.85E-7	3.94E-7	1.67E-5	1.01E-7	4.43E-6	4.14E-9	-5.42E-6	1.58E-5
EP-m	kg N eq	5.11E-4	3.74E-5	3.77E-5	5.86E-4	2.51E-5	1.35E-4	1.97E-6	-2.32E-4	5.16E-4
EP-T	mol N eq	5.82E-3	4.13E-4	3.93E-4	6.63E-3	2.77E-4	1.49E-3	1.34E-5	-2.57E-3	5.84E-3
POCP	kg NMVOC eq	2.14E-3	1.18E-4	1.13E-4	2.37E-3	7.91E-5	4.62E-4	4.32E-6	-1.20E-3	1.71E-3
ADP-mm	kg Sb eq	5.31E-5	4.64E-7	4.61E-7	5.40E-5	3.19E-7	1.85E-6	3.30E-9	-3.52E-6	5.27E-5
ADP-f	MJ	1.55E+1	2.76E-1	3.61E-1	1.62E+1	1.89E-1	1.63E+0	1.02E-2	-1.46E+1	3.45E+0
WDP	m3 depriv.	6.50E-1	9.88E-4	1.97E-1	8.48E-1	5.80E-4	3.65E-2	5.08E-5	-2.68E-1	6.17E-1
PM	disease inc.	2.45E-8	1.65E-9	1.98E-9	2.81E-8	1.11E-9	8.41E-9	6.95E-11	-1.15E-8	2.62E-8
IR	kBq U-235 eq	2.43E-2	1.16E-3	5.19E-4	2.60E-2	8.27E-4	5.62E-3	4.66E-5	-7.08E-3	2.54E-2
ETP-fw	CTUe	1.47E+2	2.46E-1	4.65E-1	1.48E+2	1.54E-1	3.57E+0	8.17E-3	-1.93E+0	1.50E+2
HTP-c	CTUh	2.42E-10	7.99E-12	2.06E-11	2.71E-10	5.47E-12	2.09E-10	2.35E-13	-7.86E-11	4.07E-10
HTP-nc	CTUh	7.13E-8	2.70E-10	4.80E-10	7.21E-8	1.83E-10	2.77E-9	4.89E-12	-2.28E-9	7.27E-8
SQP	Pt	1.96E+0	2.40E-1	3.93E-2	2.23E+0	1.62E-1	1.17E+0	2.58E-2	-4.18E-1	3.17E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	4.96E-1	3.46E-3	8.90E-1	1.39E+0	2.71E-3	1.37E-1	3.63E-4	-1.97E-1	1.33E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	4.96E-1	3.46E-3	8.90E-1	1.39E+0	2.71E-3	1.37E-1	3.63E-4	-1.97E-1	1.33E+0
PENRE	MJ	1.67E+1	2.93E-1	3.93E-1	1.73E+1	2.01E-1	1.74E+0	1.08E-2	-1.57E+1	3.62E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.67E+1	2.93E-1	3.93E-1	1.73E+1	2.01E-1	1.74E+0	1.08E-2	-1.57E+1	3.62E+0
PET	MJ	1.71E+1	2.97E-1	1.28E+0	1.87E+1	2.04E-1	1.88E+0	1.11E-2	-1.59E+1	4.96E+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	1.43E-2	3.37E-5	4.64E-3	1.90E-2	2.14E-5	1.11E-3	1.25E-5	-4.01E-3	1.61E-2

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	6.17E-6	7.00E-7	4.90E-7	7.36E-6	4.84E-7	3.43E-6	1.22E-8	-2.43E-6	8.87E-6
NHWD	kg	5.15E-2	1.75E-2	2.04E-3	7.11E-2	1.17E-2	7.88E-2	4.72E-2	-1.17E-2	1.97E-1
RWD	kg	2.61E-5	1.81E-6	7.16E-7	2.86E-5	1.29E-6	7.08E-6	6.65E-8	-6.27E-6	3.08E-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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