ALGA™ Filament

Product Specifications:

Material: ALGIX 3D ALGA Filament™	
Color Names	Primordial Red Terrestrial Tan Diatomic Green Evergreen Agave Blue Tundra Gray Swamp Black
Filament Diameter	1.75 or 2.85 mm

Packaging	
Filament Quantity	100 Gram Coil and 375 Gram Spool
Spool Diameter	17.8 cm (7 in)
Spool Width	2.8 cm (1 1/8 in)
Spool Hub Hole	5.2 cm (2 in)

General Information

ALGIX 3D ALGA™ filament is the perfect material for many FDM/FFF 3D printing needs, including prototyping, educational and design or artistic projects inspired by nature. ALGA™ filament is made from nuisance algae, thus helping keep ecology in balance through remediation. The remainder of the filament is made from PLA, a nontoxic resin made of lactic acid derived from plant sugars. ALGA™ filament has a unique texture and color palette inspired by nature. Using ALGA™ filament for your prints allows you to use a more sustainable material to print your dreams.

Professional Production

ALGIX is a distinguished leader in compounding and additives for the bioplastics industry for innovative, sustainability focused products. Our polymer science expertise and strategic partnerships are driving material innovations and quality. All ALGIX 3D filaments are produced in the Solaplast bioplastic production facility located in Meridian, Mississippi. We source all of the finest raw materials, including resins, pigments and additives in the making of our ALGIX 3D ALGA™ filament, so that we can ensure the most consistent and highest quality product for every order. You can expect our polymer scientists to continually develop innovative new materials focused on performance, sustainability and quality.

Quality Control

Our filament extrusion system uses dual axis micrometer measurement systems to check the diameter and roundness during production. This helps us guarantee that each spool of ALGIX 3D filament is produced with a precision tolerance. We can guarantee ±3% diameter specifications on our ALGIX 3D ALGA™ filament, which means you can rest assured that your printer is extruding the exact amount of material without causing jams, clogs and headaches. The ALGIX 3D printing test lab features several popular 3D printers, and we are continuously testing our filament on these 3D printers to monitor quality using advanced statistical techniques.

3D Printing Tips

- To achieve the best performance, store ALGA™ filament in a cool, dry place as it can absorb moisture from the air, and long-term exposure to high humidity conditions can compromise almost any filament quality and performance.
- Print in an area with good airflow and minimal temperature fluctuations.
- Be sure your build plate is level, clean and oil-free before printing. Algae™ filament adheres well to glass or plastic and does not require a heated build plate.
- If your machine has a fan, we recommend using it for most prints.
- It is recommended to use high water content hairspray (as opposed to high ethyl alcohol content) lightly sprayed on the surface and allowed to dry before starting prints to ensure the first layer of the print sticks to the plate.
- This filament will run best at an extrusion temperature of 195-210°C (2.85mm filament usually prints at the higher end of this range).
- If prints appear stringy lower temp in 5°C increments until your prints appear satisfactory.
- For more stability and a higher quality print, consider experimenting with infills, print speeds and layer height.
- For prints with curvatures, it is recommended to turn on rafts and supports in your settings.

Filament Testing Results

Physical Properties	Algae™ Filament	Characteristic Effects
Clarity	Opaque	Light Transmission of Part
Melting Point (°C)	160	Polymer melting temperature
Diameter Tolerances (mm)	± .08	Variation in filament size
Ovality (mm)	± .04	Difference between two diameters measured across the filament's profile
Density (g/cm^2)	1.25	Density of filament material
Melt Flow Index (195°C)	27	Viscosity of filament in molten state
Tensile Strength at Yield (MPa)	35	The force required to deform
Tensile Elongation (%)	2.05	The amount of stretching before breaking
Tensile Modulus (MPa)	2754	The rigidity or resistance to stretching
Toughness (J)	0.09	The amount of energy required to break
Heat Deformation Temp (°C)	55	Temperature at which a part will begin to deform after being post annealed
Volatile Compounds Detected	28	Number of identified compounds released during 3D printing
Volatiles with Toxicity Concerns	0	Number of identified compounds with a toxic health hazard rating according to GHS