

TECHNICAL DATA SHEET

AthenaX

Date of issue: 07-10-2024 / Date of update: 07-10-2024



Product specifications

AthenaX is our engineering grade PCTG with the same X-factor as ApolloX and TitanX. This means plug and play 3D printing. Athena's X-factor ensures low shrinkage plus increased bed- and layer adhesion.

This PCTG filament 3D prints as easy as PETG. But, with a superior clarity and impact resistance. Its impact resistance is comparable to Tough PLA. AthenaX enables you to 3D print parts with high dimensional accuracy. Precise parts that are durable, tough, and have a good resistance to chemicals.

AthenaX is a water-resistant polymer, which makes it a very versatile material. It is suitable for (food) packaging, electronic housings and even biomedical applications.

Important key features

- High impact strength comparable to Tough PLA.
- High transparency / clarity.
- Good chemical resistance.
- HDT of 76°C / Vicat of 88°C.
- Water-resistant (hydrophobic) polymer.

Suitable applications

- Packaging and containers.
- Electronic housings and components.
- 3D printing end-use parts.
- Small-scale production.
- Making tooling and manufacturing aids.

Material properties

Specific Gravity

Typical value

1.23 g/cm³

Test Method

ASTM D 792

Mechanical properties

Tensile strength at yield

44 MPa

ISO 527

Tensile strength at break

46 MPa

ISO 527

Elongation at yield

4.4%

ISO 527

Elongation at Break

220%

ISO 527

Flexural Strength (15mm/min)

60 Mpa

ISO 178

Flexural Modulus (15mm/min)

1600 Mpa

ISO 178

Izod Notched Impact Strength (23°C)

93°C KJ/m²

ISO 180

Rockwell Hardness (R-scale)

105

ASTM D785

Thermal properties

HDT (@0.455MPa)

76°C

ISO 75

HDT (@ 1.820 Mpa)

64°C

ISO 75

Vicat softening temperature

88°C

DSC

Pre-drying AthenaX

AthenaX is a PCTG based filament. PCTG is moderately hygroscopic and therefore it is recommended to pre-dry the filament at 75°C for approximately 24 hours before usage for optimal results. You will get the most out of the material properties with pre-dried filaments. For optimal print results we recommend to print AthenaX filament from a drying box to avoid that the material can accumulate humidity from the environment.

Storage and handling

Filament should be stored at room temperature in a dry and dark place with humidity below 15%. Recommended storage temperature is ca. 18-25°C (64.4-77.0°F). Keep out of moisture, sunlight and direct heat. When stored properly, product has a shelf life of 24 months. To obtain the best parameters of the printed object, it is recommended to dry the material prior to usage and to 3D print it directly from a dry box.



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Product export information

HS Code	Description	Origin
39169090	Monofilament for 3D printing	European Union



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Disclaimer

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