

1. Product Identification

Product Name: Ceramic Tough 150

2. Description

TECHNICAL DATA SHEET (TDS) FOR CERAMIC TOUGH 150

Ceramic Tough 150 is a high-temperature, ceramic-filled photopolymer resin designed to produce tough, stiff parts with exceptional resolution. Engineered for high-detail precision applications, this material is ideal for **prototyping, engineering, mold masters, and custom connectors**. It supports a variety of finishing techniques such as **painting and plating**, making it a preferred choice for industrial applications.

3. Applications

- **Prototyping & Engineering:** With its high strength, stiffness, and temperature resistance, Ceramic Tough 150 is a reliable choice for engineers and designers needing durable prototypes and functional components.
 - **Mold Masters:** High-temperature resistance and precision make this resin perfect for creating mold patterns used in thermal and molding processes.
 - **Custom Connectors & Fine Details:** Ideal for high-resolution parts with dimensional accuracy and intricate designs.
 - **Animation & Industrial Use:** Supports multiple finishing methods, including **painting and plating**, allowing enhanced visual and functional properties.
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4. Technical Specifications

Material Properties

Property	Ceramic Tough 150	Units
Tensile Strength	45 MPa	MPa
Elongation at Break	2.5%	%
Flexural Strength	105 MPa	MPa
Flexural Modulus	3,850 MPa	MPa
Izod Impact, Notched	0.002 KJ/m ²	KJ/m ²
Hardness, Shore D	93	-

Heat Deflection Temperature @ 0.455 MPa	240 °C	°C
Heat Deflection Temperature @ 1.82 MPa	195 °C	°C

5. Key Features

- **High-Temperature Resistance:** Heat deflection temperatures up to **240°C** at 0.455 MPa and **195°C** at 1.82 MPa.
- **Tough and Stiff:** Engineered for **durable, long-lasting parts** that withstand demanding conditions.
- **Ceramic-Filled Composition:** Enables high-detail precision and **excellent dimensional accuracy**.
- **Versatile Finishing:** Supports **painting, plating, and polishing**, making it ideal for both functional and aesthetic applications.
- **Efficient Production:** Compatible with various 3D printers for fast and effective manufacturing.

6. Application Instructions

Ceramic Tough 150 is designed for use in high-resolution 3D printing applications. Ensure surfaces are **clean and dry** before application. Follow the **3D printer manufacturer's guidelines** for optimal printing and curing conditions to achieve the best results.

7. Safety Information

- Follow all safety guidelines provided in the **Safety Data Sheet (SDS)**.
- Ensure proper **ventilation** when handling the resin.
- Use **personal protective equipment (PPE)** during handling and application.

8. Packaging and Storage

- Available in **various packaging options** to meet different production needs.
- Store in a **cool, dry place**, away from direct sunlight and moisture.
- Ensure **containers are tightly sealed** when not in use.

9. Contact Information

Resinify Technology LLC**Location:** Detroit, Michigan, USA**Website:** www.ResinifyTechnology.com

10. Uses and Benefits

Uses:

- Ideal for creating **high-precision, high-detail parts** for industrial applications.
- Suitable for **custom connectors and high-detail mold masters**.
- Effective for **animation and industrial applications** requiring **superior finishing**.

Benefits:

- **High Precision:** Exceptional resolution for fine details and accurate geometries.
- **Thermal Resistance:** High heat deflection temperature for **performance stability** in extreme conditions.
- **Tough and Stiff:** Ceramic-filled structure ensures **long-lasting durability**.
- **Versatile Finishing:** Compatible with **painting, plating, and polishing** for enhanced **aesthetic and functional properties**.
- **Optimized for Efficiency:** Works seamlessly with **various 3D printers**, enabling fast and efficient production.

Ceramic Tough 150 sets a new standard in **high-temperature, high-resolution 3D printing**, offering an unparalleled balance of **precision, strength, and durability** for industrial and engineering applications.