



Figure 4[®] JCAST-GRN 20

Jewelry Castable

Optimized for clean and easy burnout of finely detailed, high-resolution jewelry patterns for direct casting

Figure 4

OUTSTANDING DETAIL AND RESOLUTION FOR JEWELRY CASTING

Designed for the jewelry casting professional, Figure 4 JCAST-GRN 20 produces accurate, reproducible, and highly detailed master patterns for jewelry casting. This high contrast green material is easy to cast with minimal ash and residue, producing high quality jewelry pieces rapidly.

APPLICATIONS

- Production of master patterns for gypsum investment casting of all types of jewelry
- Suitable for a range of precious metals
- Highly detailed models with properties that enable direct stone-setting
- Fully designed workflow to suit a wide range of jewelry styles

BENEFITS

- Produces high quality castings
- High detail and feature resolution
- Optimized wax content for superior burnout
- Direct casting, no tooling required
- High accuracy and repeatability
- Easy pattern burnout

Basic Information

MEASUREMENT	METHOD	VALUE	
Color	X-Rite	Green	
Solid Density	ASTM D792 ISO 1183	1.15 g/cm ³	0.042 lb/in ³
Liquid Density	Kruss Tensiometer	1.11 g/cm ³	0.040 lb/in ³
Viscosity	Brookfield	0.305 Pa*s	305 cPs
Package Volume		1 kg bottle - Figure 4 Jewelry and Standalone	
Default Layer Thickness	Internal	30 µm	0.001 in
Speed - Standard mode	Internal	15 mm/hr	0.59 in/hr





Solid Material

PHYSICAL, MECHANICAL, AND THERMAL PROPERTIES			
MEASUREMENT	CONDITION	METRIC	U.S.
24 Hour water absorption	ASTM D570 ISO 62	1.06%	1.06%
Tensile Strength Ultimate	ASTM D638 Type IV	9 MPa	1200 psi
Tensile Strength at Yield	ASTM D638 Type IV	Did not yield	Did not yield
Tensile Modulus	ASTM D638 Type IV	300 MPa	40 ksi
Elongation at Break	ASTM D638 Type IV	15%	15%
Elongation at Yield	ASTM D638 Type IV	Did not yield	Did not yield
Shore Hardness	ASTM D2240 ISO 7619	57D	57D
CTE -20 to 70C	ASTM E831 ISO 11359-2	122 ppm/C	68 ppm/F
CTE 90 to 180C	ASTM E831 ISO 11359-2	151 ppm/C	84 ppm/F
Vicat Softening Temp B1 - 10N	ASTM D1525	193 C	380 F
Vicat Softening Temp B2 - 50N	ASTM D1525	59 C	139 F
Ash Content	ASTM D5630	0.16%	0.16%

Material Processing Instructions

MIXING INSTRUCTIONS

1kg Bottle for Figure 4 Jewelry and Standalone

- Roll bottle for 60 minutes on 3D Systems LC-3D Mixer for first use, or after 2 weeks without use
- Roll for 30 minutes before subsequent uses
- Allow bubbles to dissipate for about 15 to 30 minutes. Briefly stir with the Resin Mixer before printing

Between print jobs, use the Resin Mixer to thoroughly stir material in the tray and remove buildup from all tray surfaces, until well combined. Stir for about 3 to 5 minutes. Appearance will change to a solid color, with no streaks. Start print jobs within 30 minutes of stirring.

FOUR OPTIONS FOR CLEANING

1. Sonication in IPA
 - Sonicate in IPA \leq 5 min.
 - Rinse in clean IPA
2. Non-Flammable Sonication
 - Sonicate in DPM
 - Rinse in clean DI Water
3. Manual Cleaning in IPA
 - Clean in IPA \leq 5 min. Use 2 stages (Dirty + Clean)
 - Rinse in clean IPA
4. Non-Flammable Manual Cleaning
 - Clean in DPM
 - Rinse in clean DI Water

DRYING INSTRUCTIONS

Ambient or air dry \geq 1 hour, or oven dry for 45min @ 30°C (86°F)

UV CURE TIME

Not recommended

More details can be found in the User Guide available at <http://infocenter.3dsystems.com/>



www.3dsystems.com

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