

Smooth-Cast® 310

Polyurethane
Smooth-On, Inc

Message:

The Smooth-Cast® 300 Series of liquid plastics are ultra-low viscosity casting resins that yield castings that are bright white and virtually bubble free. Vacuum degassing is not necessary. They offer the convenience of a 1A:1B by volume or 100A:90B by weight mix ratio. The differences between them are pot life and demold time.

These resins readily accept fillers (such as URE-FIL® 3 from Smooth-On) and can be and can be colored with SO-Strong® or Ignite® color tints (Smooth-Cast® 325 series accepts pigments better than the Smooth Cast® 300 series). Fully cured castings are tough, durable, machinable and paintable. They resist moisture and mild solvents. Applications for Smooth-Cast® 300 Series Liquid Plastics include reproducing small to medium size sculptures, making prototype models, special effect props and decorative jewelry.

Those interested in making roto cast pieces should refer to the Smooth-Cast® ROTO® technical bulletin.

General Information			
Features	Durable		
	Good Colorability		
	Good Toughness		
	Low Viscosity		
	Machinable		
	Moisture Resistant		
	Paintable		
	Solvent Resistant		
Uses	Decorative Parts		
	Jewelry		
	Modeling Material		
Appearance	White		
Forms	Liquid		
Processing Method	Casting		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.05	g/cm³	ASTM D1475
Specific Volume	0.954	cm³/g	ASTM D1475
	100A:90B by weight		
Mixing Ratio	1A:1B by volume		
Molding Shrinkage - Flow	0.65	%	ASTM D2566
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	70		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	924	MPa	ASTM D638

Tensile Strength	20.7	MPa	ASTM D638
Tensile Elongation (Break)	7.5	%	ASTM D638
Flexural Modulus	814	MPa	ASTM D790
Flexural Strength	27.6	MPa	ASTM D790
Compressive Modulus	310	MPa	ASTM D695
Compressive Strength	26.2	MPa	ASTM D695
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)	48.9	°C	ASTM D648
Thermoset	Nominal Value	Unit	Test Method
Pot Life	15 to 20	min	
Thermoset Mix Viscosity	80.0	cP	ASTM D2393
Demold Time ¹ (23°C)	180 to 240	min	
NOTE			

1. Cure Time

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Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

