POLYMÈRES technologies

TECHNO CAST 3284

Transparent casting polyurethane

DESCRIPTION

Clear polyurethane casting resin used in the manufacturing of parts that require resistance to ultraviolet light.

TECHNO CAST 3284 has a mixing ratio of 1:1 by volume, a pot life of 40 minutes, and a hardness of 82 Shore D. Small masses of the product may require a 6 to 8 hours post-cure to reach their maximum hardness. To preserve the product's transparency, POLYMÈRES TECHNOLOGIES recommends the use of a platinum-based silicone mold without a release agent. However, validation must be done before going on production.

The product is based on a unique block isocyanate technology. This material combines exceptional properties such as maximum optical quality and high structural strength. Hydrolytic resistance, mechanical resistance, glossy finish, and ultraviolet resistance. However, no climate resistance information is available for TECHNO CAST 3284. Each user must determine the suitability of the product for their specific use and the conditions under which the product will be used.

FEATURES:

- High transparency
- Easy polishing
- High reproduction fidelity
- Available in 1.892L, 7.56L 37.8L and 400L
- Excellent U.V. resistance
- Easy implementation
- Fast mold release
- Very low viscosity

APPLICATION INSTRUCTIONS

Slowly mix part A with a metal spatula 1-inch wide or wider.

Prepare the required quantities of parts A and B precisely according to the mixing ratio of 1A/1B by volume.

Mix parts A and B evenly with a metal spatula, making sure not to incorporate air into the mixture. When mixing, a clouding effect will occur and fade away when the 2 parts are homogeneous. Make sure the mixture is homogeneous by scraping the bottom and sides of the container.

If necessary and prior to pouring, release bubbles from the mixture using a vacuum chamber. In order to reach the best results, we strongly recommend to use a heated autoclave and let the parts in for a minimum of 6-12 hours at 60-70°C (140°F-158°F).

IMPORTANT: After 24 hours at 22°c (72°F) and when cast thinly (0.187 inch and less), the resin will be very brittle. It is possible to accelerate the curing and demolding time through a 4-hour post-curing at 40-45°c in the silicone mold.

Contact POLYMÈRES TECHNOLOGIES for more information. Contact us for more information.

6330, boul. Laurier Ouest, Saint-Hyacinthe (Québec) Canada J2S 9A7
Phone: (450) 250-3058 • Toll-free: 1 866 799-3058 • Fax : (450) 250-3059
ventes@polymerestechnologies.com · www.polymerestechnologies.com

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typical properties (at 22°C)

		CURATIVE (PART A)	PREPOLYMER (PART B)	MIXED
Viscosity	Brookfield (cps)	600	100	200-300
Color		Clear	Clear	Clear
Density	ASTM D 792 (g/cm^3)	1	1.07	1.05
Mixing ratio	1. by volume:	1	1	1/1
	2. by weight	100	103	100/103
Pot life		40 minutes at 22°C		
Full cure (days) *	Varies with the design and mass of the part	24-48 hours at 22°C depending on mass		
Demolding time	Varies with the design and mass of the part	7 hours at 22°C		

physical properties (solid state) after 7 days at 22°C

TESTS	METHOD	RESULTS	
Hardness	ASTM D 2240	Shore D	82
Stretching	ASTM D 412	%	8
Linear shrinkage	ASTM D 2566	Cm / cm	0.0002
Warping temperature	ASTM D 648	°F	170
Pressure resistance	ASTM D 412-80	Psi	6554

PRECAUTIONS

- Consult the Material Safety Data Sheet before using this product.
- It is essential to strictly observe the appropriate occupational hygiene measures when handling:
  - Ensure good ventilation.
  - Wear gloves, goggles, and protective clothing
- Sealing the cover: Many resins are sensitive to ambient humidity. **To preserve the product, cover it with our nitrogen atmosphere TECHNO DRY 7477.**
- Shelf life of the product: **Once the container is opened, POLYMÈRES TECHNOLOGIES has no control or responsibility over the product.**
- **The shelf life of the material in the original unopened containers is one (1) year.**
- It is recommended that provincial and federal safety regulations be followed. In case of contact with eyes, flush thoroughly with water and seek medical attention immediately. In case of skin contact, rinse thoroughly with soap and water. Keep out of reach of children

* After the material has solidified, a full cure can be accelerated at 51.7°C (125°F)