

KE1300T MOLDMAKING SILICONE

THE MOLDMAKER'S CHALLENGE: Produce a moldmaking silicone for stereolithographic generated parts as well as other patterns that

- Will not damage the master.
- Are compatible with Cibatool™ SL 5170, SL 5180 and SL 5190.
- Provide multiple pulls per mold.
- Offer visible air management during the pour and before mold cures.
- Have extremely low shrinkage and good resin resistance.

OUR SOLUTION: Shin-Etsu Addition Curing Clear Moldmaking Silicones

SHIN-ETSU KE 1300T A clear, high strength, variable catalyst mold making silicone with no shrinkage. It is economically priced and ideal for rapid prototypes.

GENERAL PROPERTIES

Before Cure

Appearance	translucent
Mix Ratio, base:catalyst	10:1
Specific gravity mixed, 25°C	1.07
Viscosity, mixed, 25°C	75,000 cps
Pot life, 25°C	1.5 hrs.

After Cure (25 hr at 25°C)

Hardness	40 Shore-A
Tensile Strength	850 psi
Tear Strength	125 ppi
Elongation	400%
Linear Shrinkage	<0.10%

RECOMMENDED CURE SCHEDULE

24 hr at 25°C	60 min at 100°C
120 min at 50°C	20 min at 150°C

CATALYST SELECTION CHART

PROPERTY	CAT 1300	CAT 1300L-2	CAT 1300L-3	CAT1300L-4	CAT1300L-5
Pot Life, hrs	1.5	16	2	2	2
Hardness, A	40	40	30	20	28
Tensile psi	850	850	700	650	650
Tear, ppi	125	125	85	70	110
Elongation, %	340	340	425	600	50
Recommended Cure Condition	24 hr 25°C	72 hr/25°C or 2 hr / 100°C 1 hr / 150°C	24 hr/25°C + post cure 1 hr / 50°C	24 hr/25°C + post cure 1 hr / 50°C	24 hr/25°C + post cure 1 hr / 50°C
Demold Time at 25°C	12-16 hrs	48 hrs	24 hrs	24 hrs	24 hrs

Note: All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed. No warranties of any kind are made except that materials supplied are TMI standard quality. All risk and liability arising from handling, storage and use of TMI products, as well as compliance with applicable legal restriction, rest with the buyer.

KE1300T MOLDBAKING (Cont.)

Feature	Advantage	Benefit
Clear bubbles	Inspect your uncured pour for air	Make a perfect mold on the first try; save time and money
	Visually inspect master positioning time and money	Make a perfect mold on the first try; save time and money
	Easy to see your master while cutting a one-piece mold	Recover expensive masters without damage
	Can see resin fill the mold	Cut vent holes where needed
High Tear Strength	Long Mold Life	Make fewer molds; save time and money
Variable Catalyst	Change the hardness and pot life	Lowers material costs by allowing a single base resin for multiple jobs
Addition Cure	No cure shrinkage	Exact master reproduction = better parts
	Excellent resin resistance	Make fewer molds; save time and money

Storage and Shelf Life These Moldmaking Silicones have a shelf-life of 6 months from the date of shipment when stored in original, unopened containers, at or below 90°F.

Cure Inhibition Certain chemicals, curing agents, plasticizers and materials can inhibit cure. The most common are: 1. Organo-tin, Silicone rubber containing organo-tin, Sulfur and many sulfur containing materials, Amines and amine containing materials, Unsaturated hydrocarbon plasticizers and high acid content PVC. Should a substrate or material be a possible cause of inhibition, it is best to test a small sample for compatibility with the elastomer. The presence of liquid or uncured product at the substrate and cured elastomer interface is a good indication of inhibition.

Deairing To eliminate voids within the rubber before cure, remove air entrapped during mixing. As a vacuum of 28-29 inches is applied, the mixture will "froth" and expand about 4 times its original volume, crest and recede to original levels. (A film coating on the container sides will indicate the original volume.) The deairation cycle is complete about 10 minutes after frothing ceases. If the container size is too small for deairing the mixture, the vacuum may be broken to reduce the bubble formation. Deairation can also be accomplished by placing the mixture in a freezer overnight. The silicone will stay liquid but will not react to cure. The air bubbles will slowly rise to the surface.

Please call **801-265-0111** for Data Sheets or other information.

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