

Two component, Translucent Silicone mold-making material

KE-1321/CAT-1321S

Features

- Addition cure system
- Good durability with polyurethane resins
- Low viscosity
- Moderate tensile strength
- Low linear shrinkage
- Room temperature cure or heat cure to shorten the curing time

Applications

Mold-making of intricate design models etc.

Typical Properties

Item	Unit		KE-1321 Base	CAT-1321S Curing agent
Appearance			Translucent Liquid	Transparent Liquid
Viscosity	Pa·s	mm ² /s	67	670
Mixing ratio	Wt%		100	10
Cure type			Addition Cure	
Working time at 23°C	min.		80	
Curing time at 23°C	Hours		24	
Density at 23°C	g/cm ³		1.08	
Hardness	Type-A		40	
Elongation at break	%		290	
Tensile strength	MPa		6.2	
Tear strength	kN/m		19	
Linear shrinkage	%		< 0.1	
Catalyst Alternatives			CAT-1321L (Longer pot life)	

Not specification values

Packing: KE-1321 Net weight 20kg pail
 CAT-1321S Net weight 1kg can

How to use

1) Preparation

First, master patterns are prepared. They can be of materials which have a surface firm enough to be painted with RTV: such as wood, plastic, metal, clay, etc. However, some materials and coatings on master patterns can inhibit cure, and it is suggested that a pretest with a few grams of catalysed rubber be carried out. Barrier Coat NO.6 can be painted to the surface of the master pattern to prevent cure inhibition.

2) Measurement

Pour the required quantity of KE-1321 into a mixing vessel. Foaming to 4 or 5 times the original volume may occur in the early stage of the de-aeration process suggested below, so a vessel of sufficient size should be employed.

3) Curing agent addition

10% by weight of curing agent CAT-1321S is added to KE-1321.

4) Applying the mixture

Mixing should be carried out as soon as the curing agent CAT-1321S has been added. In general, a spatula or a mixer will help to ensure even dispersion and subsequent uniform cure. When catalysed, KE-1321 increases in viscosity, therefore, pouring should be carried out as soon as possible after the de-aeration process.

5) De-aeration

De-air thoroughly with vacuuming equipment until the mix becomes free of air bubbles.

Under vacuum, KE-1321 will rapidly froth and increase in volume. The bubbles will then collapse, and KE-1321 will regain its original level.

6) Pouring the mold

If the master pattern contains deep crevices and undercuts, in order to prevent air entrapment slowly pour KE-1321 into a corner of the frame and allow it to flow around the pattern.

7) Curing

Standard curing condition of KE-1321/CAT-1321S

Room temperature cure: At 23°C for 24hrs

Storage condition

KE-1321 and CAT-1321S should be stored at between 1 to 25°C. Avoid direct sunlight.

Handling precautions – Curing inhibition -

An Addition cure Silicone rubber may not cure on surfaces where it comes in contact with certain types of substances. It may fail to cure entirely if certain substances have been mixed into the rubber. This phenomenon, which is known as “curing inhibition” occurs because the substances inhibits the catalytic function of the RTV silicone rubber.

Possible cure inhibitors are substances which contain sulfur, phosphorus, nitrogen compounds, water and organometallic salts.

Specific examples of curing inhibitors ;

- Organic rubber (natural rubber and synthetic rubbers such as chloroprene rubber, nitrile rubber and EPDM)
- Soft polyvinyl chloride resin
- Amine-hardening Epoxy resin
- Isocyanates of urethane resin
- Rubber clay and oil clay
- Condensation cure RTV Silicone rubber (KE-45, KE-66, KE-12, KE-17 and KE-1414 etc)
- Some adhesive tape bonding agents, adhesives, paints (such as polyester paints), waxes, solder fluxes and pine resin

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