

QM 2325 2 part moldmaking material

Description

QM 2325 is a two-component, room temperature, condensation cure, silicone material. The cured rubber is flexible and has excellent mechanical and physical properties in addition to good shelflife stability. This material is an excellent choice for the molding of intricate patterns which involve deep undercuts and where dimensional stability becomes important while maintaining a fairly low modulus.

Key Features

- Low viscosity
- Excellent tear resistance
- Fast de-mold time
- Moderately high durometer with a moderately low modulus

Application

Statues, monument restoration, polyester, PU and epoxy casting resins, prototypes and technical articles, architectural, picture frames

Use and Cure Information

CURE CHARACTERISTICS

The standard catalyst for QM 2325 is MM Cat 2300 Green catalyzed at a 100:5 (base:catalyst) ratio by weight. Faster cure can be obtained using DBT or a higher level of MM Cat 2300 Green. However, rapid cure of condensation cure moldmaking materials can often result in a small sacrifice of physical properties or an increase in hardness. The curing process begins as soon as the catalyst is mixed with the base. The material will cure as described in the data above under normal temperature (25°C) and humidity conditions (50% RH). Because this system is sensitive to heat and humidity, a change in cure speed may be observed if one or both of these variables are altered. A large difference in temperature (+/- 5°C) or humidity (> 60% – 70%) may alter the cure profile of the material. In addition, if the product is to be used with aggressive resins such as high styrene polyester resins, it is recommended that the rubber be allowed to cure for 48 hours.

MIXING

All condensation cure catalysts should be thoroughly mixed prior to catalyization. CHT recommends that the catalyzed material be tested on a small area of the mold prior to use. QM 2325 should be thoroughly mixed with MM Cat 2300 Green using a 100:5 (base:catalyst) ratio by weight. Shake the catalyst well before use. Material should be mixed in a clean, compatible metal or plastic container. The volume of the container should be 3-4 times the volume of the material to be mixed. This allows for expansion of the siloxane material during deaeration. Mix thoroughly by hand or with mixing equipment while minimizing air entrapment until a homogeneous mixture is obtained. This will occur when the material takes on a uniform color with no visible striations.

DE-AERATION

Air trapped during mixing should be removed by vacuum at 29 inches of mercury. During the process, the material will expand, and intermittent evacuation may be required. Typically, after releasing the vacuum 2 - 3 times, the mass will collapse on itself at which time the vacuum should be left on for an additional 2 - 4 minutes.

Property

Uncured Product

Property	Test Method	Value
Cure Profile		3 days, 25°C, 50% humidity
Cure Type		Condensation
De-mould Time / Full Cure at 23°C/73°F		16 - 24 hrs
Density A	BS ISO 2781	1.11
Density B	BS ISO 2781	1.00
Mix Ratio By Weight		100:5
Rheology		Liquid
Tack Free Time / Skin Formation at 23°C/73°F		6 - 8 hr
Viscosity A	Brookfield	35000 cP
Viscosity B	Brookfield	200 cP
Viscosity Mixed	Brookfield	28000 cP

Cured Product

Color		Light green
Density	BS ISO 2781	1.10 g/cm³
Elongation at Break	ISO 37	400 %
Hardness Shore A	ASTM D 2240-95	25
Linear Shrinkage (%)		<0.3 %
Tear Resistance (N/mm)	BS ISO 34-1	24.3 N/mm / 140 ppi
Tensile Strength	ISO 37	3.49 N/mm² / 506 psi

Storage

Max Storage Temperature		38 °C / 100 °F
Shelf Life		12 mths

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UNCATALYZED		
PROPERTY	QM 2325	MM Cat 2300 Green
Color	Beige	Green
Viscosity	35,000 cps	200 cps
Specific Gravity	1.11	1.00

CATALYZED	
MIX RATIO 100:5 by weight	
PROPERTY	MM Cat 2300 Green
Color	Light Green
Viscosity	28,000 cps
Specific Gravity	1.10
Work life at 25°C *	60 minutes
Tack-free time	6 - 8 hours
Demold time	16 - 24 hours

* Work life is defined as the amount of time required for the material to double in catalyzed viscosity.

CURED PROPERTIES	
3 DAYS @ 25°C	
Durometer, Shore A	25
Tensile Strength	500 psi
Elongation	400%
Tear B	140 ppi
Linear Shrinkage	< 0.30%

Storage

See product label and/or CoA for specific "Use By Date". Product should be stored in its original, unopened container. Storage beyond the date specified on the label does not necessarily mean that the product is no longer usable. In this case, the properties required for the intended use should be checked for quality assurance reasons.

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