TECHNICAL DATA SHEET

QM 100
2 part moldmaking material

Description

QM 100 is a two-component, room temperature, condensation cure, silicone material. The cured rubber is a crystal-clear material designed specifically for the special effects market. The materials' clarity allows for its' use as fake ice, fake glass or any application where clarity is required.

Key Features

- Low viscosity
- Clarity
- Fast de-mold time
- Clear, pigmentable

Key Applications

- Complies with FDA indirect food contact regulation CFR 177.2600, when used with QM Cat Clear FG. Refer to QM Cat Clear FG data sheet for typical properties.

Application

Special effects, fake glass, fake ice pigmentable

Use and Cure Information

CURE CHARACTERISTICS

QM 100 should be catalyzed with QM Cat 100 at a ratio of 10:1 by weight. Faster cure can be obtained using DBT or a higher level of QM Cat 100. However, rapid cure of condensation cure moldmaking rubber often results 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.

Property	Test Method	Value
Uncured Product		
Cure Profile		**3 days, 25°C, 50% humidity**
Cure Type		**Condensation**
De-mould Time / Full Cure at 23°C/73°F		**4 - 6 hrs**
Density A	BS ISO 2781	**0.97**
Density B	BS ISO 2781	**0.92**
Mix Ratio By Weight		**10:1**
Rheology		**Liquid**
Snap Time to Become a Semi Solid at 25°C/77°F		**>35 min**
Viscosity Mixed	Brookfield	**550 cP**
Cured Product		
Color		**Clear**
Density	BS ISO 2781	**0.96 g/cm3**
Hardness Shore A	ASTM D 2240-95	**30**
Linear Shrinkage (%)		**<0.3 %**
Storage		
Max Storage Temperature		**38 °C / 100 °F**
Shelf Life		**12 mths**

TYPICAL PROPERTIES

UNCATALYZED		
TEST	**QM 100**	**QM Cat 100**
Appearance	Clear	Clear
Viscosity	600 cps	20 cps
Specific Gravity	0.97	0.92

CATALYZED MIX RATIO 10:1 by weight	
PROPERTY	**RESULT**
Catalyzed Color	Clear
Snap Time at 25 °C *	> 35 minutes
Demold Time	4 – 6 hours

* Snap time is defined as the time required for the material to become a solid or semi-solid.

CURED PROPERTIES 3 DAYS at 25 °C	
Durometer, Shore A	30
Linear Shrinkage	< 0.3%

MIXING

QM 100 should be thoroughly mixed with QM Cat 100. 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 de-

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aeration. Mix thoroughly by hand or with mixing equipment while minimizing air entrapment until a homogeneous mixture is obtained. The material will take on a uniform clear appearance.

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 minute.

Storage

See product label and /or CoA for a 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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