

QM Skin 30 2 part moldmaking material

Description

QM Skin 30 is a two-component, room temperature, condensation cure, silicone material. The cured rubber is very soft, has excellent mechanical properties and very low bleed in addition to good shelf-life stability. This material is an excellent choice for the molding of intricate patterns, skin molding and applications where low durometer, translucent material is required

Key Features

- Low viscosity
- High elongation (>1000%)
- Excellent retention of additional fluid
- Fast de-mold time, translucent and 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, skin replication, pigmentable

Use and Cure Information

CURE CHARACTERISTICS

The standard catalyst for QM Skin 30 is QM Cat Skin 30 catalyzed at a 10:1 ratio (base:catalyst) by weight. Faster cure can be obtained using DBT or a higher level of QM Cat Skin 30. 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

CHT recommends that the catalyzed material be tested on a small area of the mold prior to use. QM Skin 30 should be thoroughly mixed with QM Cat Skin 30 using a 10:1 ratio (base:catalyst) 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 de-aeration. 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

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	1.12
Density B	BS ISO 2781	1.00
Mix Ratio By Weight		10:1
Rheology		Liquid
Viscosity A	Brookfield	50000 cP
Viscosity B	Brookfield	100 cP
Viscosity Mixed	Brookfield	30000 cP

Cured Product

Color		Translucent
Density	BS ISO 2781	1.12 g/cm3
Elongation at Break	ISO 37	1000 %
Hardness Shore A	ASTM D 2240-95	5
Linear Shrinkage (%)		<0.3 %
Tear Resistance (N/mm)	BS ISO 34-1	16.5 N/mm / 94 ppi
Tensile Strength	ISO 37	2.41 N/mm2 / 349 psi

Storage

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

UNCATALYZED		
PROPERTY	QM Skin 30	QM Cat Skin 30
Color	Translucent	Translucent
Viscosity	50,000 cps	100 cps
Specific Gravity	1.12	1.00

CATALYZED	
MIX RATIO 10:1 by weight	
PROPERTY	QM Cat Skin 30
Color	Translucent
Viscosity	30,000 cps
Specific Gravity	1.12
Work Life at 25 °C *	42 minutes
Tack-Free Time	8 – 12 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 at 25 °C	
Durometer, Shore A	5
Tensile Strength	350 psi
Elongation	1,000%
Tear B	95 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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