

QM 130T 2 part moldmaking material

Description

QM 130T is a two-component, translucent, room temperature, condensation cure, silicone material. When catalyzed with QM Cat Clear Thixo 2 the resulting material is extremely thixotropic. QM 130T is also available for non-thixotropic, flowable applications when catalyzed with QM Cat Clear. The cured rubber has excellent properties and good shelf life stability.

Key Features

- High tear strength
- High thixotropy (if desired)
- Fast de-mold time
- Excellent dimensional stability

Application

Vacuum bag applications, polyester, PU and epoxy

Use and Cure Information

CURE CHARACTERISTICS

The standard catalyst for the QM 130T is QM Cat Clear or QM Cat Clear Thixo 2 catalyzed 10:1 (base:catalyst) by weight. Faster cure can be obtained using DBT, STO or a higher level of QM Cat Clear or QM Cat Clear Thixo 2. 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.

MIXING

All condensation cure catalysts should be thoroughly mixed prior to catalyzation. CHT recommends that the catalyzed material be tested on a small area of the mold prior to use. QM 130T should be thoroughly mixed with the chosen catalyst 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.

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		12 - 16 hrs
Density A	BS ISO 2781	1.12
Mix Ratio By Weight		10:1
Rheology		Paste
Tack Free Time / Skin Formation at 23°C/73°F		3 - 5 hr
Viscosity A	Brookfield	50000 cP

Cured Product

Color		Translucent
Density	BS ISO 2781	1.11 g/cm3
Elongation at Break	ISO 37	350 - 450 %
Hardness Shore A	ASTM D 2240-95	30
Linear Shrinkage (%)		<0.3 %
Max Working Temp		150 °C / 302 °F
Min Working Temp		-50 °C / -58 °F
Tear Resistance (N/mm)	BS ISO 34-1	12.2 N/mm / 70 ppi
Tensile Strength	ISO 37	3.45 N/mm2 / 500 psi

Storage

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

UNCATALYZED			
TEST	QM 130T	QM CAT CLEAR	QM CAT CLEAR THIXO 2
Color	Translucent	Translucent	Translucent
Viscosity	50,000 cps	100 cps	900 cps
Specific Gravity	1.12	1.00	1.03

CATALYZED		
MIX RATIO 10:1 by weight		
PROPERTY	QM CAT CLEAR	QM CAT CLEAR THIXO 2
Color	Translucent	Translucent
Catalyzed viscosity	Flowable	Thixotropic, easily workable
Specific Gravity	1.11	1.11
Work life at 25°C *	20 minutes	20 minutes
Tack-free time	4 - 6 hours	3 - 5 hours
Demold time	12 - 16 hours	8 - 12 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		
PROPERTY	QM CAT CLEAR	QM CAT CLEAR THIXO 2
Durometer, Shore A	30	30
Tensile Strength	500 psi	500 psi
Elongation	450%	350%
Tear B	140 ppi	70 ppi
Linear Shrinkage	< 0.3%	< 0.3%
Useful temperature	- 50 – 150°C	- 50 – 150°C

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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