



## Technical Data Sheet

### QM Cat Clear

Quantum Silicones' Condensation Cure  
Moldmaking Catalyst

#### **Product Description**

Quantum Silicones' QM Cat Clear is a two component, room temperature condensation cure catalyst for the QM 100 series. The cured rubber has excellent mechanical properties and good shelf-life stability. For applications requiring slower cure, QM Cat Blue is available. For applications that require a very quick curing system, QM Cat Red 3 is available.

#### **Key Features**

- Quick tack-free time
- Fast demold time
- Minimal impact on cured physical properties

#### **Main Applications**

- Molds for polyurethane and polyester resin castings
- Molds where hand mixing is required
- Glove molding applications

#### **Typical Properties**

<b>UNCURED PROPERTIES</b>	
Appearance	Translucent
Viscosity, cps	100
Specific Gravity, g/cm <sup>2</sup>	1.00
Mix Ratio	10:1 <b>by weight</b>

<b>CATALYZED PROPERTIES-QM CAT CLEAR<sup>(1)</sup></b>	
Catalyzed Color	Same as base: Beige/White
Pot Life <sup>(2)</sup> (minutes)	~45 minutes
Tack-Free Time(hours)	4 to 6 hours
Demold Time(hours)	12 to 16 hours

(1) A Thixotropic catalyst is available. Please see individual data sheets for more information.

(2)Pot Life is defined as the time at which the catalyzed viscosity has doubled.

## **Final Properties**

See individual data sheets for QM 100 series

## **Cure Characteristics**

The curing process begins as soon as the catalyst is mixed with the base. Under normal temperature (25C) and humidity (50% RH) conditions, the material will cure as described in the data above. Because this system is sensitive to heat and humidity, a change in cure speed may be seen if one or both variables are altered. Any large difference in temperature (+/-5C) or humidity (>60-70%) may change the cure profile of the material. In addition, if the product is to be used with aggressive resins such as high styrene polyester resin, it is recommended that the rubber be allowed to cure for 48 hours.

QM Cat Clear with the QM 100\* series should be mixed at a 10% level **by weight**. QM Cat Blue is recommended for those needing a longer working time or those hand mixing larger quantities. Faster cure can be obtained using DBT, a higher level of QM Cat Clear, or QM Cat Red 3. However, rapid cure of condensation cure moldmaking rubber often results in a small sacrifice of physical properties or an increase in hardness.

\*QM 100, QM 135 and QM 140 each require their own specific catalyst. Please see individual data sheets for details.

## **Mixing and De-aeration**

The following procedure should be followed for obtaining optimal performance from the QM 100 series.

Charge 100 parts, **by weight**, of the QM 100 series base and 10 parts, **by weight**, of QM Cat Clear into a clean, compatible metal or plastic container. Shake the catalyst well before use. The volume of the container should be 3 to 4 times the volume of the material to be mixed. This allows for expansion of the siloxane material as it de-gasses.

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. Once mixing is complete it is recommended that the material be de-aired 2 to 3 times by intermittent evacuation for a few minutes to minimize any imperfections due to bubbles in the cured material. Typically after releasing the vacuum 2 to 3 times the mass will collapse on itself at which time the vacuum should be left on only 2 to 4 minutes longer. For best results, machine mixing is recommended.

### **Shelf-life and Storage**

The QM 100 series base and QM Cat Clear should be stored in their original, sealed containers in an environment that does not exceed 90° F. Under these conditions the expected shelf-life of the material is 6 months.

### **Not for Product Specification**

The technical data listed herein is provided as a reference only and **is not** intended as sales specifications. For sales and technical assistance or for product recommendations, please call 1-800-852-3147.

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