

## Technical Data Sheet

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### QM 280 80 Shore A, Addition Cure Moldmaking Material

#### PRODUCT DESCRIPTION

QM 280 is a two-component, addition cure, silicone material. The cured rubber has excellent mechanical properties, good shelf-life stability, excellent physical properties and resin resistance. This material is a good choice for the molding of furniture, picture frames and architectural materials. QM 280 is exceptionally good where high durometer and dimensional stability are required, when cured at room temperature. The addition of heat is required to reach maximum durometer.

#### KEY FEATURES

- High durometer
- Casting resin resistance
- Fast demold time
- Excellent dimensional stability

#### MAIN APPLICATIONS

- Molds for architectural replication
- Molds for polyester, epoxy resin casting, and rigid or foam polyurethane
- Molds for technical articles and prototypes
- Molds for furniture and picture frame replication
- High durometer silicone for roller applications

#### TYPICAL PROPERTIES

UNCATALYZED		
TEST	QM 280 A	QM 280 B
Appearance	Beige	Clear
Viscosity	140,000 cps	1000 cps
Specific Gravity	1.50	1.02

CATALYZED	
MIX RATIO 10:1 by weight	
PROPERTY	RESULT
Catalyzed Color	Beige
Catalyzed Viscosity	90,000 cps
Work Life at 25 °C *	60 minutes
Demold Time	8 – 12 hours

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

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CURED PROPERTIES	
3 days at 25 °C	
PROPERTY	RESULT
Durometer, Shore A	72
Tensile	1,100 psi
Elongation	75%
Tear	75 ppi
Linear Shrinkage	< 0.1%
Useful Temperature Range	- 55 °C – 204 °C

**Note:** Heat is required to achieve 80 Shore A durometer

### CURE CHARACTERISTICS

QM 280 A is catalyzed with QM 280 B at a 10:1 ratio (base:catalyst) by weight. In order to achieve optimum performance, the same lot number of QM 280 A and QM 280 B should be used.

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.

### MIXING

CHT recommends that the catalyzed material be tested on a small area of the mold prior to use.

Combine ten parts of QM 280 A with one part of QM 280 B by weight into a clean, compatible container and mix by hand or with mixing equipment until a uniform consistency is observed. Accurate weighing of components on a suitable scale is essential for optimal product performance. The material should have 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.

Machine mixed material does not normally need to be de-aired.

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### **STORAGE AND SHELF LIFE**

This product is best when used within 24 months from date of manufacture. See product label and/or CoA for specific "Use By Date".

Product should be stored in its original, unopened container in an environment that does not exceed 38 °C (100 °F).

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.

### **DISCLAIMER**

The technical data listed is provided for reference only and is not intended as product specifications. CHT USA's team accepts opportunities to either modify specifications in a current product or custom formulate a new one to meet your requirements. For sales and technical assistance, please contact us at: **(804) 271-9010** or **1-800-852-3147**.

Please be sure to visit our website daily for our complete product portfolio, new product introductions and more:

[www.silicone-experts.cht.com](http://www.silicone-experts.cht.com)

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