# Technical Data Sheet

## QM 118

**18 Shore A, Condensation Cure Moldmaking Material**

### PRODUCT DESCRIPTION

QM 118 is a two-component, room temperature, condensation cure, silicone material. The cured rubber is very soft, has excellent mechanical properties and good shelf-life stability. This material is an excellent choice for the molding of intricate patterns, skin molding or for applications which demand a tough rubber. The hardness of QM 118 is the midpoint of the QM100 series and therefore offers excellent physical properties. A variety of catalysts are offered with this material.

### KEY FEATURES

- Low viscosity
- Excellent physical properties
- Fast demold time

### MAIN APPLICATIONS

- Molds for large and small statues and monument restoration
- Molds for polyester, polyurethane and epoxy resin castings
- Molds for prototypes

### TYPICAL PROPERTIES

| UNCATALYZED | | | | |
|---|---|---|---|---|
| **TEST** | **QM 118** | **QM CAT PURPLE** | **QM CAT BLUE** | **QM CAT RED 3** |
| Color | Beige | Purple | Blue | Red |
| Viscosity | 20,000 cps | 100 cps | 100 cps | 100 cps |
| Specific Gravity | 1.28 | 1.00 | 1.03 | 0.95 |

| CATALYZED<br>MIX RATIO 10:1 by weight | | | |
|---|---|---|---|
| **PROPERTY** | **QM CAT PURPLE** | **QM CAT BLUE** | **QM CAT RED 3** |
| Color | Light Purple | Light Blue | Light Red |
| Viscosity | 13,500 cps | 13,500 cps | 13,500 cps |
| Specific Gravity | 1.24 | 1.24 | 1.24 |
| Work life at 25°C * | 25 minutes | 45 minutes | 7 minutes |
| Durometer shore A, 24 hour | 15 | 15 | 15 |
| Tack-free time | 4 - 6 hours | 6 - 8 hours | 45 - 60 minutes |
| Demold time | 12 - 16 hours | 16 - 24 hours | 4 - 6 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 | |
| Durometer, Shore A | 18 |
| Tensile Strength | 420 psi |
| Elongation | 500 % |
| Tear B | 115 ppi |
| Linear Shrinkage | < 0.3 % |

Thixotropic and styrene resistant specialty catalysts are also available. Please see individual catalyst data sheets for more information.

## CURE CHARACTERISTICS

The standard catalyst for the QM 100* series is QM Cat Purple catalyzed 10:1 (base:catalyst) by weight. QM Cat Blue is recommended for those needing a longer working time or those hand mixing larger quantities of QM 118. Faster cure can be obtained using DBT, a higher level of QM Cat Purple, 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.

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.

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

## MIXING

All condensation cure catalysts should be thoroughly mixed prior to catalyzation.

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

QM 118 should be thoroughly mixed with the chosen catalyst using a 10:1 (base:catalyst) ratio 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 minute.

## STORAGE AND SHELF LIFE

If QM 118 and the chosen catalyst are stored in their original unopened containers, in an environment that does not exceed 38°C (100°F) then QSi will warranty the material for a period of 6 months from the date of shipment.

## DISCLAIMER

The technical data listed is provided for reference only and is not intended as product specifications. QSi has the capability to customize products as requested. For sales and technical assistance please contact customer service at **(804) 271-9010** or **1-800-852-3147**.

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**Quantum Silicones Headquarters**
***7820 Whitepine Road***
***Richmond, VA 23237***

**Manufacturing, Research and Development Facility**
***8021 Reycan Road***
***Richmond, VA 23237***

**Phone:** ***804-271-9010***
**Fax:** ***804-271-9055***
**Toll Free:** ***800-852-3147***