TECHNICAL DATA SHEET

QM 132T
2 part moldmaking material

Description

QM 132T 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 132T is also available for non-thixotropic, flowable applications when catalyzed with QM Cat Purple or QM Cat Purple SR 2. The cured rubber has excellent properties and good shelf life stability.

Key Features

- High tear strength
- Fast de-mold time
- Excellent dimensional stability
- Excellent styrene resistance, when used with QM Cat Purple SR 2

Application

Molds using polyester, PU and epoxy casting resins

Use and Cure Information

CURE CHARACTERISTICS

The standard catalyst for QM 132T is QM Cat Purple, QM Cat Purple SR 2 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 Purple, QM Cat Purple SR 2 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

QM Cat Purple, QM Cat Purple SR 2 and QM Cat Clear Thixo 2 should be thoroughly mixed prior to use. CHT recommends that the catalyzed material be tested on a small area of the mold prior to use. QM 132T 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 as it 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	Test Method	Value
Uncured Product		
Cure Type		**Condensation**
De-mould Time / Full Cure at 23°C/73°F		**12 - 16 hrs**
Density A	BS ISO 2781	**1.11**
Drying / Fixing Conditions		**3 days, 25°C, 50% humidity**
Mix Ratio By Weight		**10:1**
Rheology		**Liquid**
Tack Free Time / Skin Formation at 23°C/73°F		**4 - 6 hr**
Viscosity A-Part mPas	Brookfield	**50000 mPas**
Viscosity Mixed mPas	Brookfield	**Flowable mPas**
Cured Product		
Colour		**Blue**
Density	BS ISO 2781	**1.30 g/cm3**
Elongation at Break (%)	ISO 37	**350 - >450 %**
Hardness Shore A	ASTM D 2240-95	**28 - 32**
Linear Shrinkage (%)		**<0.3 %**
Max Working Temp (°C)		**150 °C / 302 °F**
Min Working Temp (°C)		**-50 °C / -58 °F**
Tear Resistance (N/mm)	BS ISO 34-1	**>24.3 N/mm / 0 ppi**
Tensile Strength (N/mm2)	ISO 37	**>3.45 N/mm2 / 0 psi**
Storage		
Max Storage Temperature		**38 °C / 100 °F**
Shelf Life (mths)		**12**

CHT Germany GmbH: Postfach 12 80, 72002 Tübingen, Bismarckstraße 102, 72072 Tübingen, Germany
Telephone: 07071/154-0, Fax: 07071/154-290, Email: info@cht.com, Homepage: www.cht.com / www.cht-silicones.com

UNCATALYZED				
TEST	**QM 132T**	**QM Cat Purple**	**QM CAT Purple SR 2**	**QM CAT CLEAR THIXO 2**
Color	Translucent	Purple	Purple	Translucent
Viscosity	50,000 cps	100 cps	100 cps	900 cps
Specific Gravity	1.11	1.00	1.00	1.03

CATALYZED			
MIX RATIO 10:1 by weight			
PROPERTY	**QM Cat Purple**	**QM CAT Purple SR 2**	**QM CAT CLEAR THIXO 2**
Color	Translucent Purple	Translucent Purple	Translucent
Catalyzed viscosity	Flowable	Flowable	Thixotropic, easily workable
Specific Gravity	1.10	1.10	1.10
Work life at 25°C *	35 minutes	35 minutes	20 to 30 minutes
Tack-free time	4 - 6 hours	4 - 6 hours	3 - 5 hours
Demold time	12 - 16 hours	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 Purple**	**QM CAT Purple SR 2**	**QM CAT CLEAR THIXO 2**
Durometer, Shore A	28 to 32	28 to 32	28 to 32
Tensile Strength	> 500 psi	> 500 psi	~ 500 psi
Elongation	> 450%	> 450%	~ 350%
Tear B	> 140 ppi	> 140 ppi	> 70 ppi
Linear Shrinkage	< 0.3 %	< 0.3 %	< 0.3 %
Useful Temperature Range	- 50°C – 150°C	- 50°C – 150°C	- 50°C – 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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CHT Germany GmbH: Postfach 12 80, 72002 Tübingen, Bismarckstraße 102, 72072 Tübingen, Germany
Telephone: 07071/154-0, Fax: 07071/154-290, Email: info@cht.com, Homepage: www.cht.com / www.cht-silicones.com