TECHNICAL DATA SHEET

QM 2125
2 part moldmaking material

Description

QM 2125 is a two-component, room temperature, condensation cure, silicone material. The cured rubber has excellent mechanical properties and good shelf-life stability. This material is an excellent choice for the molding of intricate patterns, skin molding and applications where high durometer, dimensional stability and extremely tough rubber are required. A variety of catalysts are offered with this material.

Key Features

- Low specific gravity
- High tear strength
- Low viscosity and long work life
- Fast de-mold time and excellent dimensional stability

Application

Statues, technical articles, prototypes, furniture, picture frames, PU, epoxy and polyester casting resins, GFRC pre-cast

Use and Cure Information

CURE CHARACTERISTICS

The standard catalyst for QM 2125 is Moldmaster Purple catalyzed at a 10:1 (base:catalyst) ratio by weight. Faster cure can be obtained using DBT, Moldmaster Red, Moldmaster Blue or a higher level of Moldmaster Purple. However, rapid cure of condensation cure moldmaking materials can often result 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.

Property	Test Method	Value
Uncured Product		
Cure Profile		**3 days, 25°C, 50% humidity**
Cure Type		**Condensation**
Density A	BS ISO 2781	**1.16**
Density B	BS ISO 2781	**1.00**
Mix Ratio By Weight		**10:1**
Rheology		**Liquid**
Tack Free Time / Skin Formation at 23°C/73°F		**2 - 4 hr**
Viscosity A	Brookfield	**35000 cP**
Viscosity Mixed	Brookfield	**28000 cP**
Cured Product		
Color		**Blue**
Density	BS ISO 2781	**1.14 g/cm3**
Elongation at Break	ISO 37	**500 %**
Hardness Shore A	ASTM D 2240-95	**23**
Linear Shrinkage (%)		**<0.3 %**
Tear Resistance (N/mm)	BS ISO 34-1	**22.6 N/mm / 129 ppi**
Tensile Strength	ISO 37	**3.45 N/mm2 / 500 psi**
Storage		
Max Storage Temperature		**38 °C / 100 °F**
Shelf Life		**12 mths**

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 2125 should be thoroughly mixed with the catalyst of choice 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. This will occur when the material takes on 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.

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UNCATALYZED					
TEST	**QM 2125**	**MM PURPLE**	**MM GREEN**	**MM BLUE**	**MM RED**
Color	Beige	Purple	Green	Blue	Red
Viscosity	35,000 cps	150 cps	100 cps	150 cps	150 cps
Specific Gravity	1.16	1.00	1.00	1.00	1.00

CATALYZED				
MIX RATIO 10:1 by weight				
PROPERTY	**MM PURPLE**	**MM GREEN**	**MM BLUE**	**MM RED**
Color	Light Purple	Light Green	Light Blue	Light Red
Viscosity	28,000 cps	28,000 cps	28,000 cps	28,000 cps
Specific Gravity	1.14	1.14	1.14	1.14
Work life at 25°C *	60 minutes	60 minutes	30 minutes	30 minutes
Tack-free time	4 - 6 hours	4 - 6 hours	2 - 4 hours	2 - 4 hours
Demold time	8 - 10 hours	8 - 10 hours	4 - 6 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	23
Tensile Strength	500 psi
Elongation	500%
Tear B	130 ppi
Linear Shrinkage	< 0.25%

Storage

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.

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