



Technical Data Sheet

QM Thixo Agent

*Quantum Silicones Thixotropic Additive for Condensation
Cure Moldmaking*

Product Description

Quantum Silicones' QM Thixo Agent is an additive for Quantum Silicones' QM 100 moldmaking series. This additive can be used with QM Cat Blue and QM Cat Purple. When used at a 1% level (10% in the catalyst) this additive creates excellent thixotropic properties. QM Thixo Agent, when used with QM Cat Blue or QM Cat Purple, exhibits non-slump behavior, at a thickness of ~1/2", with fast cure and does not change the cured properties of the QM 100 series. Glove molding, lay-up molding, spray applications, or any application where a thixotropic moldmaking material is required would be ideal for this product. The cured rubber has outstanding mechanical properties and good shelf-life stability.

Key Features

- For use with QM 113, QM 118, QM 122, QM 128, QM 135, QM 140
- Non-Slump to ~1/2"
- Fast Demold Time
- Can vary thixotrophy as needed

Main Applications

- Spray applications
- Glove molding
- Lay-up molding

Typical Properties

UNCATALYZED PROPERTIES	
Appearance	Viscous Liquid
Viscosity, cps	2,000
Specific Gravity	1.00
Recommended Mix Ratio	~1% overall (~10% in catalyst)

For example:

Base	Catalyst QM Cat Blue QM Cat Purple	Thixotropic Agent
1000 parts	100 parts	9.0 – 10.0 parts
100 parts	10 parts	0.9 – 1.0 parts

Because the thixo agent speeds up the cure rate, it is best to try a small amount first. As with any new process, trying a small amount first will best prepare the customer for their process.

Typical Properties Continued

CATALYZED PROPERTIES-QM Thixo Agent		
<i>This additive will speed up the cure rate of the QM 100 series.</i>		
	QM Cat Blue with 10% QM Thixo Agent	QM Cat Purple with 10% QM Thixo Agent
Work Time, minutes	~20 minutes	~15 minutes
Tack-Free Time, minutes	90-180 minutes	45-90 minutes
Demold Time, hours	4-6 hours	3-6 hours

Final Properties

- See individual data sheets for QM 100 series.

Library Life

The library lives of materials using Quantum Silicones' QM Thixo Agent are good. A comparison of initial physical properties to those of the same material heat aged 7 days at 50C is shown in the table below. The material tested was QM 128 catalyzed at a 1% additive level. The values reported are % loss after heat aging.

Test	% Loss in Value
Durometer	+1 durometer point
Tensile, psi	-10%
Elongation, %	-19%
Tear B, ppi	-18%

Cure Characteristics

QM Thixo Agent will speed up the cure rate of the condensation cure moldmaking series. The curing process will begin 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 of these 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 resins, it is recommended that the rubber be allowed to cure for 48 hours.

The standard catalysts for QM Thixo Agent are QM Cat Purple or QM Cat Blue at a 1% (**no** more than 2%) level overall. This is approximately 10% into the catalyst. Faster cure can be obtained using DBT or a higher level of catalyst. However, rapid cure of condensation cure moldmaking rubber often results in a small sacrifice of physical properties or an increase in hardness.

Mixing and De-aeration

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

Add approximately 1.0 part, **by weight**, of QM Thixo Agent, to 10 parts, **by weight**, of either QM Cat Blue or QM Cat Purple into a clean, compatible metal or plastic container and mix well. Once thoroughly mixed, add the catalyst mixture to 100 parts, **by weight**, of the QM 100 series base. Mix completely by hand or with mixing equipment while minimizing air entrapment until a homogenous mixture is obtained. This will occur when the material takes on a uniform color with no visible striations. The material should stand for 10 minutes for the full effect of the thixo agent to be realized.

Shelf-Life and Storage

The QM 100 series base, catalyst, and thixo agent should be stored in their original, sealed containers in an environment that does not exceed 90F. Under these conditions the expected shelf-life of the QM Thixo Agent is 3 months from the date of mixture with the catalyst.

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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