



**SILTECH CORPORATION**  
 225 Wicksteed Avenue  
 Toronto, Ontario, Canada, M4H 1G5  
 (416)424-4567 (Tel) (416)424-3158 (Fax)

TECHNICAL BULLETIN  
**Silmer® Q Resins**

**DESCRIPTION**

**Silmer® Q Resins** are the kinetic reaction products of silicates with trimethyl siloxy groups which generates a silicon-based, cross-linked network. These are often referred to as “MQ resins” because they are built of a network of tetrafunctional silicon atoms (Q group – silicon surrounded by four oxygen groups) end capped with mono functional silicon (M group – silicon with one oxygen group and three alkyls).

Depending on the specific structures, molecular weights and crosslink densities these are available as pourable liquids or solids diluted in solvents.

**PRODUCT COMPARISON**

Product	General Use	Viscosity	Actives	Appearance	Solvent
Silmer Q9	High cross-linked resins in solvent. Used for water and stain repellency and softness.	<100 cps	60-70%	Clear Liquid	Xylene or isododecane
Silmer Q12					
Silmer Q20	100% active solid resins. Useful for anti-squeak, lubricants, softness and water and stain repellency	1000 cps	100%	Clear Liquid	None
Silmer Q25		500 cps			
Silmer Q30		250 cps			

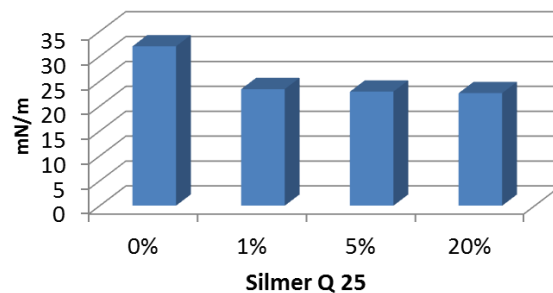
**TYPICAL PROPERTIES**

**Silmer Q Resins** are miscible with most hydrocarbon oils and insoluble in water.

**Silmer Q Resins** reduce the surface tension of oils in which they are soluble. Shown here for **Silmer Q25** in mineral oil, we have shown this effect in many other common oils.

At 1% use level, the mineral oil surface tension is reduced from 32 mN/m to 23 mN/m. Higher use levels continue to lower surface tension, but not as dramatically.

Surface Tension of Silmer Q-25 in Mineral Oil



**USES AND APPLICATIONS**

**Silmer Q Resins** are used in small amounts (up to 1%) to provide softness, anti-squeak, and lubricity. In these applications, the differing structures have discernible differences in feel and lubricity.

**Silmer Q Resins** can also be used in larger amounts (up to 5%) to provide water and stain repellency. In these applications the different structures provide more or less film forming and resistance.

**Silmer Q Resins** can be used in pressure sensitive adhesives and silicone elastomeric formulations to provide rigidity and release properties.

We have formulated **Silmer® Q Resins** into a wide variety of personal care formulations. Their general utility is summarized below. Please contact us for more specific information.

Silmer Q Resin Formulation	Silmer Q30	Silmer Q25	Silmer Q20	Silmer Q12	Silmer Q9
<b>Face Cream</b>	Suitable	Suitable	Suitable	Not Suitable	Not Suitable
<b>Lip Stick</b>	Suitable	Suitable	Suitable	Not Suitable	Not Suitable
<b>Body Moisturizing Stick</b>	Suitable	Suitable	Suitable	Not Suitable	Not Suitable
<b>AP Stick</b>	Suitable	Suitable	Suitable	Not Suitable	Not Suitable
<b>Foundation</b>	Suitable	Suitable	Suitable	Suitable	Suitable
<b>Lip Gloss</b>	Suitable	Suitable	Suitable	Suitable	Suitable
<b>Sun Screen</b>	Suitable	Suitable	Not Suitable	Suitable	Suitable
<b>Mascara</b>	Suitable	Suitable	Suitable	Suitable	Suitable
<b>Eye Stay</b>	Suitable	Suitable	Suitable	Suitable	Suitable
<b>Eye Shadow</b>	Suitable	Suitable	Suitable	Suitable	Suitable
<b>Conditioning Shampoo</b>	Not Suitable	Suitable	Not Suitable	Not Suitable	Not Suitable
<b>Hair Conditioner</b>	Suitable	Not Suitable	Not Suitable	Not Suitable	Not Suitable

**Silmer Q resins** are also available functionalized with vinyl groups for reactivity in addition cured and other free radical systems. Please ask us about these **Silmer VQ resins**.

#### **SAFETY**

Before handling, read the Material Safety Data Sheet and container label for safe use, physical and health hazard information.

THIS MATERIAL IS NOT FOR MEDICAL OR DRUG USE.

#### **STORAGE AND SHELF LIFE**

When stored in the original, unopened containers between 10 and 40°C, **Silmer Q20, Q25 and Q30** have a shelf life of at least 12 months from date of manufacture.

When stored in the original, unopened containers between 10 and 40°C, **Silmer Q9 (IDD or XYL) and Q12 (IDD or XYL)** have a shelf life of 24 months from date of manufacture.

#### **PACKAGING**

**Silmer Q Resins** are available in 20kg and 200kg containers.

#### **LEGAL DISCLAIMER**

Siltech Corporation believes that the information in this technical data sheet is an accurate description of the typical uses of the product. Siltech Corporation, however, disclaims any liability for incidental or consequential damages, which may result from the use of the product that are beyond its control. Therefore, it is the user's responsibility to thoroughly test the product in their particular application to determine its performance, efficacy and safety. Nothing contained herein is to be considered as permission or a recommendation to infringe any patent or any other intellectual property right.

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