



# Technical Data Sheet

## QSi 229

Transparent, Liquid Silicone Rubber

### PRODUCT DESCRIPTION

QSi 229 is a two-part, heat cured, optically clear liquid silicone, which exhibits great transmittance. It has a low viscosity which allows for ease of flow around complex parts, providing electrical insulation and shock resistance. The chemical composition provides hydrolytic and reversion resistance.

### KEY FEATURES

- Convenient 1:1 mixing ratio for use in automatic dispensing equipment or hand mixing
- Contains no solvents
- Non-yellowing catalyst system
- Heat cure required to obtain full properties and adhesion

### TYPICAL PROPERTIES

UNCATALYZED		
TEST	QSi 229 A	QSi 229 B
Color	Clear to cloudy	Clear to cloudy
Viscosity	2,900 cps	2,900 cps
Specific Gravity	1.00	1.00

CATALYZED PROPERTIES	
60 minutes @ 150°C	
PROPERTY	RESULT
Appearance	Clear
Linear Shrinkage	< 0.1 %
Durometer, Shore A, 1 hour @ 150°C	65

ELECTRICAL PROPERTIES	
PROPERTY	RESULT
Dielectric strength	500 V/mil
Dielectric constant @ 1000Hz	2.69
Dissipation factor @ 1000Hz	0.0006
Volume resistivity	$1.7 \times 10^{15}$ ohm-cm

THERMAL PROPERTIES	
PROPERTY	RESULT
Thermal conductivity	0.18 W/m-K
Coefficient of thermal expansion, cm/cm, °C	$27.5 \times 10^{-5}$
Specific heat	0.3 cal/g-C
Useful temperature range	- 55°C – 204°C



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OPTICAL PROPERTIES	
PROPERTY	RESULT
Refractive index, 589 nm	1.409
Transmittance, 400 nm, 1mm path	> 98.0 %

Curing*	
Time	Temperature, °C
60 minutes	150°C
120 minutes	120°C

\*Material is not designed to cure at room temperature. Material may not reach full physical properties including adhesion, if cured below the minimum recommended cure temperature. These are recommended cure times only with actual cure times and temperatures dependent on the quantity of material being used and the shape of the part being made.

### MIXING

QSi 229 A is catalyzed with QSi 229 B at a 1:1 ratio by weight. In order to achieve optimum performance the same lot number of QSi 229 A and QSi 229 B should be used.

Combine one part of QSi 229 A with one part of QSi 229 B by weight into a clean, compatible container. The volume of the container should be 3 - 4 times the volume of the material to be mixed. Mix by hand or with mixing equipment until a homogeneous mixture is obtained. Accurate weighing of all components, on a suitable scale, is essential for optimal product performance when mixing by hand.

### 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.

Machine mixed material does not normally need to be de-aired.

### STORAGE AND SHELF LIFE

If QSi 229 A and QSi 229 B 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 12 months from the date of shipment.



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### **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**.

*Please be sure to visit our website daily for our complete product portfolio, new product introductions and more! [www.quantumsilicones.com](http://www.quantumsilicones.com)*

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