

Technical Data Sheet

QSiI 223 Transparent, Liquid Silicone Rubber

PRODUCT DESCRIPTION

QSiI 223 is a two-part, transparent and colorless, liquid silicone which will cure at room temperature or at elevated temperatures. 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

TYPICAL PROPERTIES

UNCATALYZED		
TEST	QSiI 223 A	QSiI 223 B
Color	Colorless	Colorless
Viscosity	3,100 cps	2,500 cps
Specific Gravity	1.03	1.03

CATALYZED	
MIX RATIO 1:1 by weight	
Color	Transparent and colorless
Consistency	Easily pourable
Gel Time at 25 °C *	135 minutes

* Gel time is defined as the time required for the material to become a solid or semi-solid.

CURED PROPERTIES	
30 minutes at 150 °C	
PROPERTY	RESULT
Durometer, 24 hours at RT	35, Shore A
Durometer, 1 hour at 150 °C	60, Shore A
Linear Shrinkage	< 0.1%
CTE (0 °C – 100 °C)	296 ppm/°C

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UL LISTED (FILE NUMBER QMFZ2.E205830)	
UL-94 HB rated	1.7 mm

ELECTRICAL PROPERTIES (Typical Properties)	
Dielectric Strength	500 V/mil
Dielectric Constant at 1,000 Hz	2.69
Dissipation Factor at 1,000 Hz	0.0006
Volume Resistivity	1.7×10^{15} ohm-cm

THERMAL PROPERTIES (Typical Properties)	
Useful Temperature Range	-55 °C – 204 °C
Thermal Conductivity	0.18 W/m-K
Coefficient of Thermal Expansion, cm/cm, °C	27.5×10^{-5}
Specific Heat	0.3 cal/g-°C

OPTICAL PROPERTIES (Typical Properties)	
Refractive Index, 589 nm	1.405
Transmittance, 400 nm, 1 mm path	> 98.0%

MIXING

QSil 223 A is reacted with QSil 223 B at a 1:1 ratio by weight. In order to achieve optimum performance, the same lot number of QSil 223 A and QSil 223 B should be used.

Combine one part of QSil 223 A with one part of QSil 223 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. When hand mixing; accurate weighing of components on a suitable scale is essential for optimal product performance.

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.

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STORAGE AND SHELF LIFE

This product is best when used within 24 months from date of manufacture. 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.

DISCLAIMER

The technical data listed is provided for reference only and is not intended as product specifications. CHT USA's team accepts opportunities to either modify specifications in a current product or custom formulate a new one to meet your requirements. For sales and technical assistance, please contact us 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:

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