

Technical Data Sheet

QSil 220 Transparent, Liquid Silicone Rubber

PRODUCT DESCRIPTION

QSil 220 is a two-part, transparent and colorless, liquid silicone which cures 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. The formulation contains internal adhesion promoters and has excellent primerless adhesion to most substrates.

KEY FEATURES

- Convenient 10:1 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	QSil 220 A	QSil 220 B
Color	Clear	Clear
Viscosity	5,000 cps	600 cps
Specific Gravity	1.02	1.01

CATALYZED	
MIX RATIO 10:1 by weight	
Color	Clear, colorless
Consistency	Easily pourable
Gel Time at 25 °C *	> 24 hours

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

Technical Data Sheet

CURED PROPERTIES	
60 minutes at 150 °C	
PROPERTY	RESULT
Durometer	30, Shore A
Tensile	300 psi
Elongation	150%
Linear Shrinkage	< 0.1%
Refractive Index	1.406
Adhesion to Glass	Cohesive failure
Useful Temperature Range	-55 °C – 204 °C
CTE (0 °C – 100 °C)	322 ppm/°C

UL LISTED (FILE NUMBER QMFZ2.E205830)	
UL-94 HB rated	1.8 mm

CURE SCHEDULE**	
TEMPERATURE	TIME
150 °C	30 minutes
100 °C	60 minutes
60 °C	180 minutes

**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

QSil 220 A is reacted with QSil 220 B at a 10:1 ratio by weight. In order to achieve optimum performance, the same lot number of QSil 220 A and QSil 220 B should be used.

Combine ten parts of QSil 220 A with one part of QSil 220 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.

Technical Data Sheet

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

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:

www.silicone-experts.cht.com

www.quantumsilicones.com

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