Technical Data Sheet

QSil 58

60 Shore A, Condensation Cure for Potting Applications

PRODUCT DESCRIPTION

QSil 58 is a red, high temperature, self-leveling, two-component silicone material primarily used for potting applications. The two applicable catalysts are 0.5% DBT by weight and 10% Deep Section Catalyst by weight. The 0.5% catalyst level can be increased or decreased to obtain desired cure speed. Cure speed can be accelerated by adding DBT catalyst in increments of 0.1% DBT.

QSil 58 can be catalyzed with 10% Deep Section Catalyst for application requiring a deeper cure. The material can also be vulcanized at temperatures up to 70°C to increase cure speed.

KEY FEATURES

- Excellent thermal stability
- Self-leveling
- Variable cure speed

TYPICAL PROPERTIES

UNCATALYZED			
TEST	**QSil 58**	**DBT Catalyst**	**Deep Section Catalyst**
Appearance	Red	Clear/light yellow	Beige
Viscosity	9,000 cps	N/A	6,500 cps
Specific Gravity	1.48	1.04	1.47
Percent solids	100%	N/A	N/A

CATALYZED with 0.5% DBT Catalyst or 10% Deep Section Catalyst	
PROPERTY	**RESULT**
Gel time at 25°C *	49 minutes
Durometer, 24 hour	58
Specific Gravity	1.48
Useful temperature range	- 54°C (-65°F) – 260°C (500°F) continuously and up to 316°C (600°F) intermittently

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

ELECTRICAL PROPERTIES	
Dielectric strength	450 V/mil
Dielectric constant @ 1000 Hz	~ 4.4
Dissipation factor @ 1000 Hz	0.03
Volume resistivity	2 X 10^{14} ohm-cm
Thermal conductivity	0.31 W/m-K

MIXING

Both QSil 58 and QSil Deep Section Catalyst should be mixed prior to use.

QSil 58 should be catalyzed by weight with the appropriate amount of curing agent. A concentration of 0.5% DBT catalyst or 10% Deep Section Catalyst will provide a gel time of one hour and a cure time of 24 hours. Cure speed can be accelerated by adding DBT catalyst in increments of 0.1%.

Material should be mixed in a clean, compatible metal of plastic container. The volume of the container should be 4 – 5 times the volume of the material to be catalyzed. Thoroughly mix using clean tools, scraping the bottom and the side of the container to produce a homogeneous mixture.

DE-AERATION

Air trapped during mixing should be removed to eliminate voids in the cured product. Vacuum de-airing may be necessary to completely remove all entrapped air bubbles. To ensure proper de-airing, subject the mixed material to 29 inches of mercury. When using QSil 58 for potting, a de-aeration step may be necessary after pouring to avoid capturing air in complex assemblies.

DEEP SECTION CURE

Cured QSil 58 should be properly conditioned prior to service if it is to be used in deep sections at temperatures over 150°C (302°F). Following room temperature cure of 1 – 3 days, a typical program would be eight hours at 50°C intervals from 100°C (212°F) to the service temperature. Longer times at each temperature will be required for larger parts of very deep sections.

BONDING

QSil 58 rubber compounds require a primer to bond to non-silicone surfaces. Thoroughly clean the substrate with a non-oily solvent such as naphtha or methyl ethyl ketone (MEK) and let the surface dry. Then apply a uniform thin film of a suitable silicone primer to air dry for one hour or more.

STORAGE AND SHELF LIFE

If QSil 58 is stored in an environment that does not exceed 4°C (40°F) then QSi will warranty the material for a period of 6 months from the date of shipment. If QSil 58 is stored in an environment that is between 4°C (40°F) and 27°C (80°F) then QSi will warranty the material for a period of 3 months from the date of shipment.

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**.

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