



Technical Data Sheet

QSi 58

*Quantum Silicones' 60 Durometer Condensation Cure
for Potting Applications*

Product Description

QSi 58 is a red, high-temperature, self-leveling, 2-component silicone material primarily intended for potting applications. This material is supplied as a base and can be used with 2 different catalysts. This material can be catalyzed with 0.5% DBT Catalyst; however, the catalyst level can be increased or decreased to obtain the desired cure speed. To extend the work-life, adding as little as 0.1% of DBT catalyst can be done without changing the final physical properties. For applications requiring a deeper cure, QSi 58 can be catalyzed with 10% Deep Section. Once mixed, the material is self-leveling and will have a useful work-life of approximately 30-40 minutes. The material will be fully cured after 24-36 hours at room temperature. This material can also be vulcanized at elevated temperatures to increase the cure speed.

Key Features

- Self-Leveling
- Variable cure speed
- Excellent thermal stability
Useful temperature range-54C (-65F) to 260C (500F)
Continuously, and up to 316C (600F)

Typical Properties

UNCATALYZED PROPERTIES		
Color "A" component	Red	
Viscosity "A" component	9,000	
Specific Gravity "A"	1.49	
Percent Solids	100%	
CATALYST	DBT Catalyst	Deep Section Catalyst
Catalyst Color	Clear/Light yellow	Beige
Mix Ratio	100:0.5 by weight	10:1 by weight

Catalyzed Properties	
Appearance	Red
Rheology	Self-Leveling
Work Life, minutes	30
Durometer, 24 hour	60
Specific Gravity	1.48
Dielectric Strength, v/mil	450
Dielectric Constant @ 1000Hz	~4.4
Dissipation Factor @ 1000Hz	0.03
Volume Resistivity, ohm-cm	2×10^{14}

Instructions for Use

Mixing

Select a mixing container 4-5 times larger than the volume of QSil 58 silicone rubber compound to be used. Weigh out the QSil 58 base compound and add the appropriate amount of curing agent. 0.5% DBT Catalyst or 10% Deep Section Catalyst, **by weight**, will provide a work time or pot life of about one hour and a cure time of 24 hours. The pot life may be lengthened by using less DBT Catalyst (as little as 0.1% DBT Catalyst). With clean tools, thoroughly mix the QSil 58 base compound and the curing agent, scraping the sides and bottom of the container carefully to produce a homogeneous mixture.

De-aeration

Air trapped during the mixing should be removed to eliminate voids in the cured product. Degassing is usually complete about two minutes after frothing ceases. When using the QSil 58 for potting, a deaeration step may be necessary after pouring to avoid capturing air in complex assemblies.

Deep Section Cure

If these QSil 58 silicone rubber compounds are to be used in deep sections at temperatures over 150C (302F), the cured product should be properly conditioned prior to service. Following room temperature cure of 1-3 days, a typical program would be eight hours at 50C intervals from 100C (212F) to the service temperature. Longer times at each temperature will be required for larger parts of very deep sections.

Bonding

If adhesion is an important application requirement, QSil 58 silicone 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

dry. Then apply a uniform thin film of a suitable silicone primer to air dry for one hour or more.

Storage and Shelf Life

QSil 58 should be stored in the original unopened container at less 4C (40F). It will remain useful for a period of 12 months if stored under those conditions. QSil 58 will have a useful shelf life of 3 months when stored at less than 27C (80F).

Not for Product Specification

The technical data listed herein is provided as a reference only and **is not** intended as sales specifications. For sales and technical assistance or for product recommendations, please call 1-800-852-3147.

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