TECHNICAL DATA SHEET

QSil 13
2 part encapsulation and potting silicone

Description

QSil 13 is a clear, low viscosity, two-component, liquid silicone material which cures at room temperature and can be used for coating or potting applications. This material is typically mixed at a ratio of 100:5. Once mixed, the material is self-leveling and will have a useful work-life of approximately two hours. The material will be fully cured after 24 - 48 hours at room temperature. This material can also be vulcanized at elevated temperatures (up to 70°C) to increase the cure speed.

Key Features

- Low viscosity
- Variable cure speed with mild heat
- Transparency, room temperature cure
- Good adhesion with use of a primer

Application

Coating and potting

Use and Cure Information

MIXING

If using QSil Deep Section Catalyst as the curing agent, it should be thoroughly mixed prior to use. QSil 13 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 approximately 45 minutes and a tack free time of 2 hours. Cure 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. CAUTION; Avoid prolonged mixing with power tools as excess heat may build up and shorten the expected work life of the material.

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 13 for potting, a de-aeration step may be necessary after pouring to avoid capturing air in complex assemblies.

Property	Test Method	Value
Uncured Product		
Color A		**Water white**
Color B		**Clear, slight yellow**
Cure Profile		**72 hrs at room temperature**
Cure Type		**Condensation**
Density A	BS ISO 2781	**0.98**
Density B	BS ISO 2781	**0.85**
Gel Time at 25°C/77°F		**120 min**
Mix Ratio By Weight		**20:1**
Rheology		**Liquid**
Viscosity A	Brookfield	**650 cP**
Viscosity B	Brookfield	**15 cP**
Cured Product		
Color		**Clear to slightly yellow**
Elongation at Break	ISO 37	**35 %**
Hardness Shore A	ASTM D 2240-95	**16**
Max Working Temp		**204 °C / 399 °F**
Min Working Temp		**-55 °C / -67 °F**
Tensile Strength	ISO 37	**0.14 N/mm2 / 20 psi**
Thermal Conductivity		**0.18 W/mK**
Electrical Properties		
Dielectric Constant	ASTM D-150	**3.00**
Dielectric Strength (V/mil)		**400 V/mil**
Dielectric Strength kV/mm	ASTM D-149	**15.8 kV/mm / 401 V/mil**
Dissipation Factor	ASTM D-150	**0.001**
Volume Resistivity (Ohms cm)	ASTM D-257	**1E+13 ohms cm**
Storage		
Max Storage Temperature		**38 °C / 100 °F**
Shelf Life		**12 mths**

Storage

See product label and/or CoA for specific "Use By Date". Product should be stored in its original, unopened container. 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.

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