

QSiI 940 Condensation cure for potting applications

Description

This is a special purpose, two-component, condensation cure, siloxane elastomer that exhibits excellent release properties unless a primer is used, which results in excellent adhesion. The material can also be used for applications that have wide temperature range requirements.

The two applicable catalysts are 0.5% DBT by weight and 10% Deep Section Catalyst by weight which gives a work life of approximately 45 minutes and a tack free time of two hours. 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%.

Key Features

- Excellent release properties unless a primer is used
- Variable cure speed

Application

Potting

Use and Cure Information

CATALYSTS		
TEST	DBT Catalyst	QSiI Deep Section Catalyst
Appearance	Clear/light yellow	Beige
Viscosity	N/A	6,500 cps
Specific Gravity	1.04	1.47

Property

Uncured Product

Cure Profile	24 hrs at 25°C
Cure Type	Condensation
Gel Time at 25°C/77°F	45 minutes
Mix Ratio By Weight	100:0.5 or 10:1
Rheology	Liquid
Specific Gravity	1.20
Viscosity	12,000 cP

Cured Product

24 hours at 25°C

Color	White
Elongation at Break	ISO 37 170 %
Hardness Shore A	ASTM D 2240-95 40
Max Working Temp	204 °C / 399 °F
Min Working Temp	-115 °C / -175 °F
Tear Resistance (N/mm)	BS ISO 34-1 3.47 N/mm / 20 ppi
Tensile Strength	ISO 37 1.31 N/mm2 / 190 psi

Storage

Max Storage Temperature	4.4 °C / 40 °F
Shelf Life	12 mths

MIXING

If using QSiI Deep Section Catalyst as the curing agent, it should be thoroughly mixed prior to use. The base 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 or 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 this material for potting, a de-aeration step may be necessary after pouring to avoid capturing air in complex assemblies.

Revision Date 12 Oct 2021
Revision No 5
Download Date 19 May 2024

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