TECHNICAL DATA SHEET

QSil 6101
Condensation cure for potting applications

Description

PRODUCT DESCRIPTION QSil 6101 is a 100% silicone solids elastomer designed for electrical potting applications. The two-component system offers quick curing, a low modulus, and is a self-bonding material. This material also has good primerless adhesion to a variety of substrates.

Key Features

- 100% solids
- Fast curing, low viscosity, very flowable
- Excellent adhesion to many substrates including polycarbonate, PPO/PS & PPE/PS
- UL listed in file No. E205830, meets UL requirements for solar J-box potting

Application

Solar panel / photovoltaic cell junction box potting

Use and Cure Information

Property	Test Method	Value
Uncured Product		
Cure Profile		**24 hrs at 25°C**
Cure Type		**Condensation**
Density A	BS ISO 2781	**1.21**
Density B	BS ISO 2781	**0.96**
Gel Time at 25°C/77°F		**4 min**
Mix Ratio By Weight		**100:8**
Rheology		**Liquid**
Viscosity Mixed	Brookfield	**6000 cP**
Cured Product		
Color		**Black**
Hardness Shore A	ASTM D 2240-95	**30**
UL File No.		**E205830**
Electrical Properties		
Comparative Tracking Index (volts)		**>600 volts**
Adhesion Testing		
Lap Shear Adhesive Strength on Polycarbonate (lbf)		**71 lbf**
Storage		
Max Storage Temperature		**38 °C / 100 °F**
Shelf Life		**12 mths**

CHT Germany GmbH: Postfach 12 80, 72002 Tübingen, Bismarckstraße 102, 72072 Tübingen, Germany
Telephone: 07071/154-0, Fax: 07071/154-290, Email: info@cht.com, Homepage: www.cht.com / www.cht-silicones.com

UNCATAYLZED		
PROPERTY	**QSil 6101**	**QSil Cat 6101**
Appearance	Black	Clear
Viscosity	6,700 cps	30 cps
Specific Gravity	1.21	0.96

CATALYZED 24 hours at 25 °C	
MIX RATIO 100:8 by weight, 10:1 by volume	
PROPERTY	**RESULT**
Gel Time at 25 °C *	4 minutes
Durometer	30, Shore A
Adhesion	
Aluminum	Cohesive Failure
Polycarbonate	Cohesive Failure
PPE/PS Blends	Cohesive Failure
PPO/PS Blends	Cohesive Failure
Lap Shear (polycarbonate/polycarbonate)	
12H at RT	62 lbf
24H at RT	65 lbf
72H at RT	71 lbf
168H at 85 °C/85%RH	62 lbf
1,000H at 85 °C/85RH	60 lbf
Minimum CureTime to 100% Cohesive Failure	
Aluminum	6 hours
Polycarbonate	16 hours
PPE/PS Blends	24 hours
PPO/PS Blends	3 hours

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

UL Results at 3mm (File E205830)	
UL 94	V-1
HAI	1
HWI	3
CTI	0

ADHESION

Ensure the surface is clean and free of any foreign substances. Clean the surface of the substrate to be adhered to with a suitable solvent for best results. MIXING In order to achieve optimum performance, the same lot number of QSil 6101 and QSil Cat 6101 should be used. QSil 6101 should be thoroughly mixed prior to use.

Mixing by hand: Mixing by hand is not recommended for this product. If mixing by hand, QSil 6101 is catalyzed with QSil Cat 6101 at a mix ratio of 100:8 by weight. The volume of the container should be 3 – 4 times the volume of the material to be mixed. Accurate weighing of all components, on a suitable scale, is essential for optimal product performance when mixing by hand. Mixing and dispensing with automatic equipment: QSil 6101 is catalyzed with QSil Cat 6101 at a 10:1 ratio by volume. Use a system that will properly mix the A and B components. CHT USA has identified cartridges and static mixers that work extremely well with this material. Please contact your customer service representative for information on 400 ml cartridges as well as for the appropriate static mixers. This material can be easily machine dispensed and CHT USA has demonstrated this in conjunction with Graco. QSil 6101 can be readily dispensed through a PR-70V with excellent mixing with the appropriate static mixer. There are additional equipment suppliers who can also provide pumps that will adequately mix QSil 6101. Contact your sales or customer service representative for additional information.

DE-AERATION

Machine mixed material does not normally need to be de-aired.

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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