



HYSOL® OS0100

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PRODUCT DESCRIPTION

Hysol® OS0100 is a clear water-white epoxy system developed for the encapsulation of optoelectronic devices in a liquid casting operation. This low viscosity, long pot life material, offers excellent electrical insulation, good physical characteristics and unusually stable optical clarity on devices operating up to 125°C (257°F). OS0100 can be colored and diffused by the addition of specific dye concentrates. AC7113 red, AC7044 green and AC7088 diffusant concentrate.

TYPICAL APPLICATIONS

Optoelectronic Liquid Encapsulant

PROPERTIES OF UNCURED MATERIAL

	OS0100 Part A	OS0100 Part B
Color	Clear Blue	Water-White
Specific Gravity @ 25°C, (77°F) (ITM9A)	1.15-1.20	1.16-1.22
Shelf Life @ 25°C, (77°F), months	6	6

Typical Value

Viscosity @ 25°C, (77°F) (ITM2A)		
Brookfield RVF		
Spindle 2, Speed 20, cP	200-600	100-300

PHYSICAL PROPERTIES, CURED MATERIAL

	OS0100
Color	Clear Water-White
Moisture Absorption, % (ITM109A) 24 hour immersion	0.10
Glass Transition, T _g , °C, (ITM65B) 145	
Coefficient of Thermal Expansion, in/in/°C (ITM65B) (25°-115°C)	10 x 10 ⁻⁶
Hardness, Shore D, (ITM11A)	84
Linear Shrinkage, (ASTM D2566) %-gelled @ 90°C	0.42
%-gelled @ 125°C	1.17
Izod Impact Strength, (ASTM D256) Ft-lb/in. of notch	0.23
Elongation, %	1.6
Flexural Strength, psi (ITM39A)	9,500
Specific Gravity, (ITM9A)	1.18
Tensile Strength, psi (ITM38A)	5,500
Thermal Conductivity, (ITM47C) Btu x in (hrs x sq ft x °F)	1.03
Cal x cm/(sec x sq cm x °C)	3.5 x 10 ⁻⁴

Cured Optical Properties

Index of Refraction, 25°C (77°F)	1.493
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Cured Electrical Properties

Arc Resistance, Seconds (ITM48E)		89
25°C		
	K	D
1 kHz	3.4	0.010
10 kHz	3.3	0.012
100 kHz	3.2	0.004
105°C		
	K	D
1 kHz	3.5	0.007
10 kHz	3.5	0.010
100 kHz	3.4	0.013

Volume Resistivity 2×10^{16}

K = Dielectric constant by ASTM D150
D = Dissipation Factor by ASTM D150

Vol. Res.= Volume Resistivity in ohm-cm by ASTM D257

Handling

(Recommended mix ratio and typical mixed properties)

	OS0100 Part A/Part B
Mix Ratio, parts by weight*	100/100
Mix Ratio parts by volume	100/99
Pot Life @ 25°C, 200 gram mass, days	1-2
Viscosity @ 25°C, 77°F Spindle 1, Speed 10, cP	200
Gel Time @ 100°C, minutes	10
@ 150°C, seconds	150

Parts may be demolded after gelation

*Mix ratio of these materials is fixed by their chemistry. Any attempt to increase or decrease the cure rate by adding more or less hardener will result in degraded materials.

During prolonged storage, OS0100 Part B (hardener) will crystallize. This is normal. Remelt @ 60°C to 70°C (140°F to 158°F) until clear. Avoid overheating. Allow to cool to room temperature before using.

GENERAL INFORMATION

For safe handling information on this product, consult the Material Safety Data Sheet, (MSDS).

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or their strong oxidizing materials

Cure Schedule

(Recommended for Optimum properties)

Recommended Cure	4 hrs @ 120°C
Alternate Cure	16-24 hrs @ 100°C

A post cure of 24 hours @ 120°C may be desirable.

Note

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**Loctite Electronics**

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