



9XR-785

April 2010

PRODUCT DESCRIPTION

9XR-785 provides the following product characteristics:

Technology	Epoxy
Chemical Type (Part A)	Epoxy
Chemical Type (Part B)	Anhydride
Appearance (Part A)	Clear
Appearance (Part B)	Clear
Components	Two component - requires mixing
Mix Ratio, by weight - Resin : Hardener	100 : 100
Product Benefits	• Excellent transparency • No yellowing • Mechanical toughness • Low viscosity • Long pot life • High level of heat and UV resistance
Cure	Heat Cure
Application	Encapsulant
Typical Assembly Applications	• GaN LED Lamp • Blue or white lamp-type LEDs • Automotive electronic applications

9XR-785 is a thermosetting, dielectric adhesive developed for GaN chip bonding for high-brightness LEDs.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Viscosity @ 25 °C, mPa·s (cP)	900
Specific Gravity @ 25 °C	1.15
Flash Point - See MSDS	

Part B Properties

Viscosity @ 25 °C, mPa·s (cP)	110
Specific Gravity @ 25 °C	1.17
Flash Point - See MSDS	

Mixed Properties

Mixed Viscosity @ 25°C, mPa·s (cP)	360
Specific Gravity @ 25 °C	1.15
Pot Life @ 25 °C, hours	12
Shelf Life @ 25 °C, months	6
Flash Point - See MSDS	

TYPICAL CURING PERFORMANCE

Cure Schedule

3 hours @ 110°C + 3 hours @ 135°C

Alternative Cure Schedule

1 hour @ 120°C + 3 hours @ 140°C

Shrinkage on Cure

Cure Shrinkage, % 2.95

Cure schedules are "the time at cure temperature to achieve full product cure". The times does not include the time required to ramp-up to cure temperature.

The above cure profiles are guideline recommendations. Cure conditions (time and temperature) may vary based on customers' experience and their application requirements, as well as customer curing equipment, oven loading and actual oven temperatures.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Coefficient of Thermal Expansion TMA:		
Below Tg, ppm/°C		63
Above Tg, ppm/°C		149
Glass Transition Temperature, °C		161
Water Absorption, ASTM D 570, %:		
@ 100°C, 1 hour		0.36
Shore Hardness, , Durometer D		87
Flexural strength	N/mm ² (psi)	102 (14,790)
Flexural Modulus	N/mm ² (psi)	3,000 (435,000)
Light Transmittance @ 450nm, t=3mm, %		90
Light Transmittance @ 550nm, t=3mm, %		92
Refractive Index, ASTM D542:		
@ 25°C, 450 nm		1.516

Electrical Properties:

Volume resistivity @ 25°C, 500 V, Ω-cm	1×10 ¹⁶
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GENERAL INFORMATION

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



Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 25 °C

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Note

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Reference 0.3