HYSOL® ES1900™

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PRODUCT DESCRIPTION

HYSOL® ES1900™ provides the following product characteristics:

Technology	Epoxy
Appearance (cured)	Clear
Components	Two component - requires mixing
Mix Ratio, by volume - Part A: Part B	2 : 1
Mix Ratio, by weight - Part A: Part B	100 : 46
Cure	Room temperature cure
Application	Potting and Encapsulating

HYSOL® ES1900™ is a transparent, medium-viscosity epoxy resin formulation recommended for small potting and laminating applications where clarity and excellent structural, mechanical and electrical properties are required. This two-part adhesive exhibits good wetting, cures at room temperature and develops strong, low shrinkage bonds to most materials including optical fibers, glass ceramics, most metals and many rigid plastics. It has excellent dimensional stability over a wide temperature range. Fully cured, it is a durable electrical insulator with good physical properties, and excellent chemical resistance. This product is typically used in applications with an operating range of -60 °C to +125 °C.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Part A Properties

Density, @ 25 °C, g/cm³	1.15
Viscosity @ 25 °C, cP	8,350

Part B Properties

Density, @ 25 °C, g/cm³	1.06
Viscosity @ 25 °C, cP	3,000

Mixed Properties

Pot Life @ 25 °C, minutes:	
100 g mass	8 to 10
Gel Time @ 25 °C, minutes:	
100 g mass	12 to 15
Specific Gravity	1.12
Viscosity @ 25 °C, cP	6,000

TYPICAL CURING PERFORMANCE

Recommended Curing Conditions

12 to 24 hours @ 25 °C (Recommended cure)
2 hours @ 65 °C (Alternate cure)
1 hour @ 100 °C (Alternate cure)

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Glass Transition Temperature, °C	80
Coefficient of Thermal Expansion, ppm/°C:	
Pre Tg (Alpha 1)	68
Post Tg (Alpha 2)	190
Shore Hardness , Durometer D	90
24 Hour Water Moisture Absorption, %	0.3
Tensile Elongation, %	6
Tensile Strength, psi	9,900
Compressive Strength, psi	19,000
Flexural Strength, psi	14,500

Electrical Properties:

Dielectric Strength, volts/mil	1,640
Volume Resistivity, ohm/cm @ 25°C	3×10^{16}
Surface Resistivity, ohms @ 25°C	3×10^{16}
Dielectric Constant / Dissipation Factor @ 25°C:	
1 kHz	4.0 / 0.009

GENERAL INFORMATION

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

Not for product specifications

The technical data contained herein are intended as reference only. Please contact your local quality department for assistance and recommendations on specifications for this product.

Note: Before using this product please purge approximately 30 ml. of material prior to application. Discard purged material in accordance with the Material Safety Data Sheet. A video instruction is available upon request.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.
Optimal Storage: 20 °C to 30 °C. Storage below 20 °C or greater than 30 °C can adversely affect product properties.
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

(°C x 1.8) + 32 = °F
kV/mm x 25.4 = V/mil
mm / 25.4 = inches
N x 0.225 = lb
N/mm x 5.71 = lb/in
N/mm² x 145 = psi
MPa x 145 = psi
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

Note

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Reference 1.2