Hysol

FP0114

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PRODUCT DESCRIPTION

FP0114 provides the following product characteristics:

Technology	Epoxy
Appearance	Blue
Product Benefits	• Fine filler • Low viscosity • Fast flow • Excellent wettability • Excellent adhesion • Ideal for high reliability applications
Filler Weight, %	63
Cure	Heat cure
Application	Underfill
Substrates	Ceramic, Organic, Solder mask and Polyimide
Typical Package Application	Ceramic packages and FC on flex

FP0114 epoxy underfill is designed for capillary flow on flip chip applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - Cone & Plate, 25 °C, mPa·s (cP):	
Spindle 52, speed 10 rpm	5,000
Specific Gravity	1.6
Particle Size, µm, maximum	12
Flow Rate, @ 90 °C,3 mil gap,0.5 inch flow, seconds	35
Pot Life @ 25ºC, hours	36
Gel Time @ 121ºC, minutes	9
Shelf Life @ -40°C, months	9

Flash Point - See MSDS

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

30 minutes @ 165°C
(Heat sink or hot plate cure)

With all fast cure systems, the minimum required time for cure depends on the rate of heating. Conditions where a hot plate or a heat sink is used are optimum for fastest cure. Cure rates depend on the mass of material to be heated and intimate contact with the heat source.

TYPICAL PROPERTIES OF CURED MATERIAL

Physical Properties:

Coefficient of Thermal Expansion , ppm/°C:	
Below Tg (40 to 90°C)	33
Above Tg (190 to 220°C)	95
Glass Transition Temperature (Tg) by TMA, °C	135
Extractable Ionic Content, ppm:	
Chloride (Cl-)	5
Sodium (Na+)	1

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 used with chlorine or other strong oxidizing materials.

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.

THAWING:

1. Allow container to reach room temperature before use, normally 60 to 90 minutes.
2. DO NOT thaw in an oven.
3. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

DIRECTIONS FOR USE

1. For best results in dispensing a 22 gauge needle should be used at ~10 psi pressure.
2. Optimum preheat temperature for the part is 80 to 90°C.

Storage

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

Optimal Storage: -40 °C. Storage below minus (-)40 °C or greater than minus (-)40 °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.

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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 0.1