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Technical Data Sheet

LOCTITE ECCOBOND FP4530SF

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PRODUCT DESCRIPTION

LOCTITE ECCOBOND FP4530SF provides the following product characteristics:

Technology	Epoxy
Appearance	blue
Product Benefits	• Snap curable • Compatible with small gap sizes • Fast flow
Filler Weight, %	50
Cure	Heat cure
Application	Underfill
Typical Applications	Flip Chip

LOCTITE ECCOBOND FP4530SF underfill is designed for flip chip on flex applications with a 25 micron gap. This material is formulated to change color from blue to green during the cure process to indicate the cure status.

LOCTITE ECCOBOND FP4530SF is the silane-free version of LOCTITE ECCOBOND FP4530.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - Cone & Plate, 25 °C, mPa·s (cP):	
Spindle 52, speed 20 rpm	3,300
Flow Rate @ 90°C, seconds:	
@ 500 mil travel, 3 mil gap	30
@ 500 mil travel, 1 mil gap	60
Pot Life @ 25ºC, hours	24
Pot Life typical dispensing conditions, hours	8
Shelf Life @ -40°C, months	9
Flash Point - See SDS	

TYPICAL CURING PERFORMANCE

Gel Time

Gel Time @ 121 °C, minutes	7

Snap Cure Schedule

8 minutes @ 160°C

Substrate Temperature

Temperature, °C	90

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 , ppm/°C:		
Below Tg		45
Above Tg		150
Glass Transition Temperature (Tg) by TMA, °C		145
Extractable Ionic Content, ppm:		
Chloride (Cl-)		9
Sodium (Na+)		3
Potassium (K+)		1
Flexural Modulus	N/mm²	5,600
	(psi)	(812,000)

GENERAL INFORMATION

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

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.

THAWING:

1. Allow container to reach room temperature before use.
2. After removing from the freezer, set the syringes to stand vertically while thawing.
3. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

DIRECTIONS FOR USE

1. For best flow rates, a preheat temperature of 90 °C is recommended.
2. For best results in dispensing a 21 gauge needle should be used at 10 psi pressure.

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.

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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 -40°C or greater than -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.

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
psi x 145 = N/mm²
MPa = N/mm²
N·m x 8.851 = lb·in
N·m x 0.738 = lb·ft
N·mm x 0.142 = oz·in
mPa·s = cP

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