

LOCTITE ECCOBOND DAM FP4451M

November 2013

PRODUCT DESCRIPTION

LOCTITE ECCOBOND DAM FP4451M provides the following product characteristics:

Technology	Epoxy
Appearance	Black
Product Benefits	• High purity • Minimal slumping • Green product
Cure	Heat cure
Application	Encapsulant - dam
Filler Type	Silica
Filler Weight, %	73
Operating Temperature	-65 to 150 °C
Typical Package Application	BGA and IC memory cards

LOCTITE ECCOBOND DAM FP4451M damming material is designed as a flow control barrier around areas of bare chip encapsulation.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield - RVT, 25 °C, mPa·s (cP):

Spindle 7, speed 2 rpm	980,000
Spindle 7, speed 2.5 rpm	850,000

Pot Life @ 25 °C (time to double viscosity), days 2

Flash Point - See SDS

TYPICAL CURING PERFORMANCE

Gel Time

Gel @ 121°C, minutes 8

Cure Schedule

30 minutes @ 125°C plus 90 minutes @ 165°C

Alternative Cure Schedule

60 minutes @ 165°C

The above cure profile is a guideline recommendation. 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 T _g (40 to 120°C)	22
Above T _g (190 to 220°C)	147

Extractable Ionic Content, ppm:

Chloride (Cl ⁻)	12
Sodium (Na ⁺)	1
Potassium (K ⁺)	1

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.

THAWING:

1. Allow container to reach room temperature before use.
2. DO NOT open the container before contents reach 25°C temperature. Any moisture that collects on the thawed container should be removed prior to opening the container.
3. DO NOT re-freeze. Once thawed, the adhesive should not be re-frozen.

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

N/mm² x 145 = psi

MPa = N/mm²

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

Disclaimer

Note:

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product.

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