Technical Data Sheet

LOCTITE® ECCOBOND FP 4654M

May 2022

PRODUCT DESCRIPTION

LOCTITE® ECCOBOND FP 4654M provides the following product characteristics:

Technology	Epoxy and Anhydride
Appearance	Black
Product Benefits	• High purity • Low stress • Self-leveling • Excellent chemical resistance • Jettable • Excellent thermal stability
Filler Weight, %	80
Cure	Heat cure
Application	Encapsulation, Damming or Filler
Typical Applications	Cavity fill or dam and fill
Temperature Range, °C	-45 to 150

LOCTITE® ECCOBOND FP 4654M encapsulant is designed for larger cavity-fill or dam-and-fill applications.

TYPICAL PROPERTIES OF UNCURED MATERIAL

Viscosity, Brookfield , 25 °C, mPa·s (cP):	
Spindle 52, speed 20 rpm	43,200
Pot Life @ 25°C (time to double viscosity),days	>3
Gel Time @ 121ºC, minutes	9.4
Shelf Life @ -40°C, days	270
Specific Gravity @25°C	1.85

TYPICAL CURING PERFORMANCE

Recommended Cure Schedule

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

The above cure profile is a guideline recommendation. These cure conditions (time and temperature) may vary based on customers' experience and specific 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 (<55°C)		15
Above Tg (190 to 220°C)		55
Glass Transition Temperature (Tg), °C		150
Tensile Modulus , By DMA	N/mm² (psi)	16,900 (2,451,000)
Extractable Ionic Content, :		
Chloride (Cl-)		10
Sodium (Na+)		5
Potassium (K+)		5

GENERAL INFORMATION

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

THAWING:

1. Allow container to reach room temperature before use.
2. Store tip down and warm at room temperature until no longer cool to the touch (normally 60 to 90 minutes).
3. DO NOT thaw in an oven.

Directions for use

1. For best flow rates dispense onto substrate warmed to approximately 80°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 -40°C or above -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 Henkel Representative.

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

Not for product specifications
The technical data contained herein are intended as reference only. Please contact your local Henkel representative for assistance and recommendations on the specifications of this product.

Disclaimer

Reference 1