

ALPHA[®] STAYCHIP[®] F614-3A

Non-Conductive and Electrically Insulating Adhesive

DESCRIPTION

STAYCHIP F614-3A is a thermosetting adhesive with electrical insulating properties designed for attachment or sealing applications of high reliability semiconductor packages and electronic assemblies. **STAYCHIP F614-3A** possesses the ability to attach a metal can or lid onto the package. **STAYCHIP F614-3A** was specifically developed for superior adhesion to metal lid surfaces, epoxy laminate or solder mask coated substrates.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

TYPICAL PROPERTIES MATERIAL APPLICATION

Material Properties	Method	Value	Remarks
A. Uncured			
Chemical Type		Thermosetting	
Color	Visual	Black	
Filler Type		Silica	
Viscosity at 25 °C at 0.5 RPM	ASTM D2196-99	~200 Kcps	Brookfield Spindle 51
Viscosity at 25 °C at 5.0 RPM	ASTM D2196-99	~ 45 Kcps	Brookfield Spindle 51
Thixotropic Index (0.5 RPM/5.0RPM)	ASTM D2196-99	4.0	Brookfield Spindle 51
Flashpoint	ASTM D-93-02	>200 °C	
Pot Life @ 23 °C (time to doubling of viscosity)	ISO 10364:1993	24 hours	Brookfield Spindle 51
Stencil Life		8 hours	
Storage Temperature		-40 °C	
Shelf Life @ -40 °C		6 months	
B. Cured			
Glass Transition (Tg)			

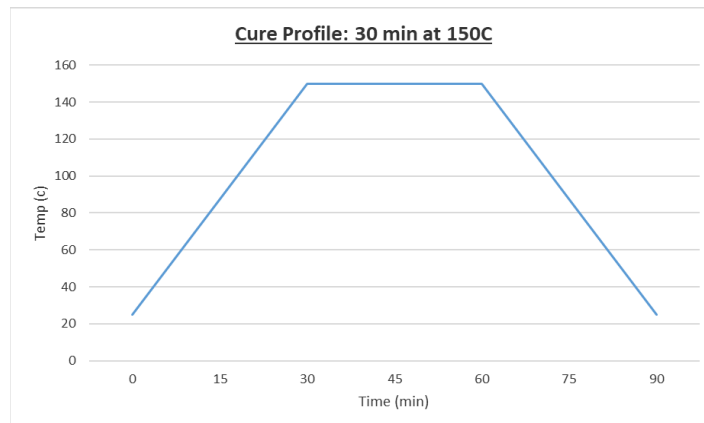
Material Properties	Method	Value	Remarks
via TMA	ASTM D3386-00	117 °C	
via DSC	ASTM D3418-99	122.76 °C	
TGA Weight Loss After Polymerization		1.7%	
CTE (α_1)	ASTM D3386-00	45 ppm	
CTE (α_2)	ASTM D3386-00	165 ppm	
Die Shear Adhesion on Gold	DIN EN 60749-19	1800 psi	
Die Shear Adhesion on Metal Lid	DIN EN 60749-19	>1350 psi	

MATERIAL APPLICATION

STAYCHIP F614-3A is formulated to be applied via dispensing or screen printing operations. Highly filled materials are recommended to be dispensed using an Auger screw pump. The material will be consistently dispensed over time. In some cases, nozzle/substrate heat may be necessary to wet-out material onto dispensed surface. Screen/Stencil printing can be carried out using standard mesh sizes which use stainless steel wires or stencils of standard thickness depending on application requirements. Equipment settings need to be optimized for desired material deposition response based on model and configuration.

CURE

STAYCHIP F614-3A cures typically in 30 min at 150 °C. Depending on thermal mass of application, oven profile, and oven type. Cure times may vary and should be optimized by the end user with their specific part/assembly.



CLEAN-UP

Uncured material may be cleaned from dispenser components and surfaces with a variety of solvents, including IPA, acetone, MEK, methylene chloride, etc. Always wash and dry thoroughly prior to re-use of the dispenser components. The cleaning technique should be active cleaning of the components – flush, wash or wipe, followed by a drying step to ensure a clean, dry surface. Do not soak since this can solubilize the hardener within the uncured resin and curing (very difficult to remove). Contact your equipment supplier to ensure the solvent is compatible with their components. Clean and maintain dispense valves as recommended by the equipment manufacturer.

PACKAGING SIZES

STAYCHIP F614-3A is available in polypropylene jars or in opaque cartridges.

SHIPPING, STORAGE & THAWING

The normal shipping condition for STAYCHIP F614-3A is an insulated box on dry ice. To ensure the material maintains critical material properties such as viscosity the material should be stored at -40 °C for a maximum shelf life of 6 months. It is recommended that the material be allowed to thaw for 1 to 2 hours before opening. The container should be removed from freezer and set aside, allowing it to thaw at room temperature, until it reaches room temperature. To prevent contamination of unused product, do not return any material to its original container.

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use. **Safety Data Sheets are available.**

WASTE TREATMENT

Prior to using any recommendations or suggestions for waste treatment, the user is required to know the appropriate local/state/federal regulations for on-site or off-site treatment which may require permits. If there is any conflict regarding our recommendations, local/state/federal regulations take precedent.

CONTACT INFORMATION

www.macdermidalpha.com

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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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