



DA 4518K Unidirectional Kevlar Epoxy Prepreg System

DESCRIPTION

DA 4518K is a tough, versatile, modified epoxy resin system that cures at 250°F to 350°F. DA4518K can be supplied as a prepreg tape coated on unidirectional Kevlar®49..

PHYSICAL PROPERTIES

Weight:	0.048 lbs./sq ft
Resin Content:	48% by Weight
Volatiles:	1.5% maximum
Tack:	Medium
Resin Flow:	26% average
Gel Time:	10 minutes at 250°F
Shelf Life:	One year at 0°F Six months at 40°F Twenty days at 75°F
Roll Size:	per customer request.

MECHANICAL PROPERTIES

Cure Cycle:	Press cured for one hour at 250°F and 30 psi pressure	
Thickness:	0.006 inch/ply	
Resin Content:	25% by Weight	
Flexural Strength	(ASTM D 790)	100,000 psi
Flexural Modulus	(ASTM D 790)	8.1 X 10 ⁶ psi
Beam Shear	(ASTM D 2344)	6800 psi

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DA4518K Uni Prereg

CURE CYCLE

DA 4518K is designed to cure in one hour at 250°F (121°C), however this system may be cured at 250°F for one hour and a post cure of 350°F for one hour. It may also be cured for 1 hour at 350°F. The prepreg may be cured using either standard heat-up methods or by in-hot, out-hot press applications. A pressure of 30 psi is recommended, however pressures of 10 to 50 psi may be used.

STORAGE

Store material in a contaminate free container and store at 0 degrees F for extended storage. For shorter storage time requirements store at 40 degrees F, this enables quicker stabilization times.

APPLICATION

Remove prepreg from cold storage at least 20 hours prior to use to allow for stabilization at room temperature. Keep the material wrapped to prevent moisture from condensing on the adhesive. If details are cut and replaced into cold storage, shorter stabilization times may be used.

Cut the prepreg to size, remove the poly separator and apply to part or mold. Remove the separator paper. Continue process until the desired number of plies is obtained.

When lay-up is complete, the prepreg can be cured in a vacuum bag in an oven or autoclave at the recommended cure cycle. Apply at least ten psi pressure and cure for one hour at 250°F..

CLEAN UP

The adhesive can be removed from non-bonding areas with ketones or methylene chloride. Be sure to follow all Material Safety Data Sheet (MSDS) guidelines for the solvent to be used.

CAUTION

This material contains epoxy resins and amines which may cause irritation to sensitive skin. Avoid contact with eyes or skin. If contact with skin occurs, wash as soon as possible with soap and water. If contact with eyes occurs, flush with water for 15 minutes. Do not handle or use this material until Material Safety Data Sheet has been read and understood. The user of this material is required to use the necessary protective equipment as directed by applicable state and federal laws when handling, curing, and grinding this material.

IMPORTANT NOTICE

Information in this data sheet has been obtained under controlled laboratory conditions and is believed to be accurate. Properties listed are typical values and are not intended for use in preparing specifications. Actual values may vary. No warranty is expressed or implied for which APCM assumes legal responsibility. APCM cannot be responsible for misapplication or handling and use under conditions beyond its control and under no circumstances shall be liable for incidental or consequential damage resulting from handling or use of this material.

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