



DA 409 Film Adhesive

DESCRIPTION

DA 409 is a modified epoxy film adhesive which cures at 250°F (121°C). The adhesive, recommended for metal-to-metal bonds, bonding of composite and honeycomb structures, exceeds the requirements of MMM-A-132, Type 1, Class 3, MIL-A-25463, Type 1, Class 1 and 2, and ASTM-E-865. DA 409 can be supplied on woven or non-woven synthetic carriers.

PHYSICAL PROPERTIES

Weight:	0.060, 0.085 and 0.090 lbs/ft ²
Volatiles:	Less than 1%
Separator:	Release paper and poly film
Shelf Life:	One year at 0°F in a sealed container
Six months at 40°F	
Twenty days at 75°F	
Standard Roll:	750 square feet at 50 inches wide
Other weights and widths up to 60 inches wide available	

AVAILABLE CARRIERS

Product	Carrier	Release Liner Color	Characteristics
DA 409	Wide open knit	Blue	Enhances bondline thickness control; good structural and handling properties during layup.
T	Tight knit tricot	Blue	Highest overall performance.
M	Random mat	Blue	Provides flow control in bondline.

MECHANICAL PROPERTIES

MMM-A-132 TYPE 1, CLASS 3 TEST DATA

0.085 psf DA 409 cured at 250°F for one hour at 30 psi pressure.

Tensile Strength	Normal Temperature	75°F	5400 psi
10 minutes at	180°F		4516 psi
10 minutes at	-67°F		5030 psi
Fatigue Strength	600 psi at 10 ⁷ cycles		no failures
Mechanical Property	Conditions		Test Values
Creep Rupture	1600 psi at 75°F, 192 hours		0.000" deformation
	800 psi at 75°F, 192 hours		less than 0.002" deformation

ADHESIVE PREPREGS FOR COMPOSITES MANUFACTURERS

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CURE CYCLE

DA 409 cures at 250°F (121°C) in one hour. Shorter cures are possible at higher temperatures. The adhesive 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 material 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.

Be sure parts to be bonded have been thoroughly cleaned and dried before bonding. Cut stabilized adhesive to part size, remove the poly separator and apply to part. Remove paper separator and join parts together. Parts are now ready to be bonded, and may be cured in a press, autoclave, or vacuum bag in oven..

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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