



DA 4090/4092 Epoxy Prereg System

DESCRIPTION

DA 4090 and DA 4092 are modified epoxy pre-impregnated systems which can cure at 250°C (121°C) for one hour. DA 4090 and DA 4092 can be supplied on any commercially available glass, Kevlar, or graphite fabric. DA 4090 is a one sided pre-impregnated fabric yielding a single sided tack material. DA 4092 is the same system where both sides of the fabric are pre-impregnated yielding a double sided tack material. Both prepreg systems can be used for laminating and honeycomb sandwich construction.

PHYSICAL PROPERTIES

Resin Content:	Nominal 50% on 7781 glass, material can be supplied at other resin contents as required
Volatiles:	Less than 1%
Separator:	Release paper and poly film
Shelf Life:	One year at 0°F Six months at 40°F 20 Days at 72°F
Standard Roll:	Widths up to 60 inches wide available

MECHANICAL PROPERTIES

Based upon 0.125 inch thick cured laminate consisting of DA 4090 on 7781 glass cloth cured at 250°F (121°C) for one hour.

Mechanical Property		Test Condition	Test Values
Tensile Strength	(ASTM D 638)	@ 75°F dry	63,400 psi
Tensile Modulus	(ASTM D 638)	@ 75°F dry	3.5 X 10 ⁶ psi
Compressive Strength	(ASTM D 695)	@ 75°F dry	48,600 psi
Flexural Strength	(ASTM D 790)	@ 75°F dry	80,100 psi
Flexural Modulus	(ASTM D 790)	@ 75°F dry	3.0 X 10 ⁶ psi
Interlaminar Shear Strength	(ASTM D 2344)	@75°F dry	7,450 psi

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DA4090/4092 Prereg

CURE CYCLE

DA 4090 and DA 4902 can be cured at 250°F (121°C) for one hour, however shorter cures are possible at higher temperatures

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 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.

Cut the prepreg to size, remove the poly separator and apply to part or mold. Remove separator paper. Continue process until the desired number of plies are obtained. Debulking is recommended after every 5 - 20 plies. The material may be debulked at temperatures up to 120° F. When lay-up is complete, the prepreg can be cured in a vacuum bag in an oven or autoclave. Apply at least 10 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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