

WP-B1268

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Low Curing Temperature Prepreg Epoxy Resin System



Wells Advanced Materials (Shanghai) Co., Ltd.

Creating Partners.

Introduction

WP-B1268 is a low-temperature curing epoxy resin system of WAM, which is a composite of epoxy resin and special curing system. The resin has good process operability and high mechanical properties, and is mainly used in the preparation of large composite structural components in the fields of carbon fiber automobiles, wind power, high-speed rail, aerospace, and other fields.

Features and Advantages

- High bonding strength
- Low pressure vacuum bag forming.
- Good adaptability and fit.

Storage

The resin system should be stored in cool and dry place or cold storage. After taking out the resin from cold storage, place the resin to room temperature, and then open the PE sealing bag to prevent condensation.

- Storage period	Temperature (°C)	Humidity (%)	Storage Period
	25	≤65	3 Weeks
	-18		9 Months

Prepreg Processing

1. Coating Condition

- Temperature between 55-65°C.
- Increase the temperature properly if the coating quantity is low to get better surface.

2. Impregnation Condition

- Temperature between 65-78°C. Increase the temperature properly if the impregnation is NOT sufficient. The temperature varies with different production speed and product thickness.
- Note that the resin is easy to cure above 80°C
- Adjust the tension, gap, pressure and other conditions according to the fiber and weight per unit area.

Recommended Curing Condition

Recommended curing conditions for atmospheric pressure molding

- 80°C*3h;
- 90°C*2h

– 100°C*1h

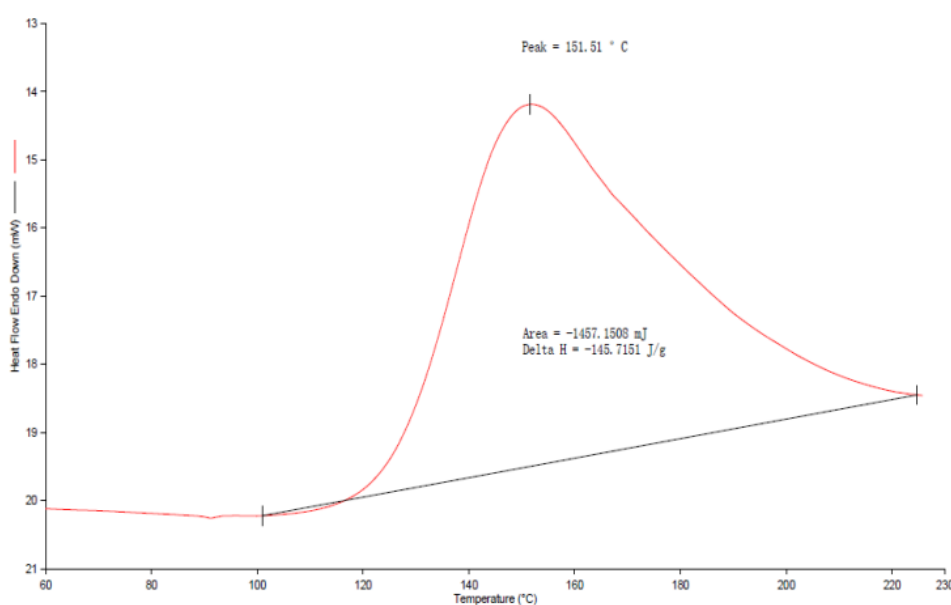
The actual curing time is related to pressure, fiber/resin shape, thickness, and heat transfer speed.

Resin Properties

	Viscosity (mPa.s, @70°C)	Gel time (min, @80°C)	Gel time (s, @120°C)
WP-B1268	4,500-12,000	55-65	570-770

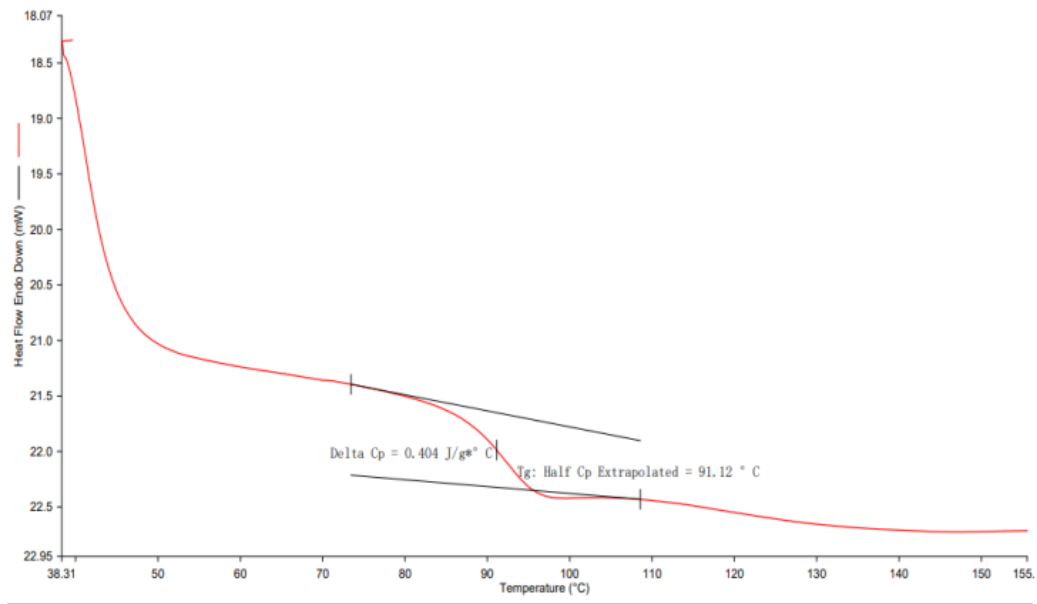
DSC Curve (Curing)

– Heating rate (10°C/min)



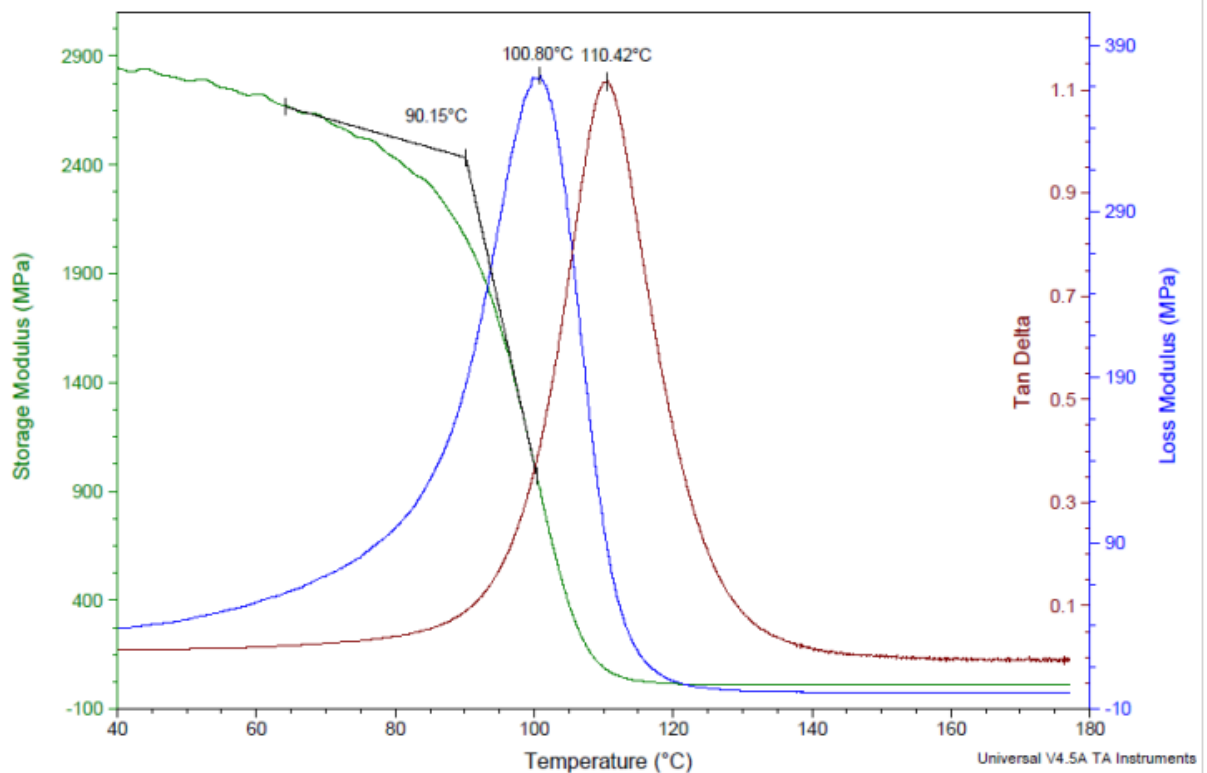
Glass Transition Temperature

– By DSC (GB/T 19466.2-2004): 91°C



DMA (ASTM E1545)

90°C(Onset of Storage), 110°C(Tan delta Peak Max)



Mechanical Properties

Test	Method	Unit	WP-B1268
Tensile Strength	GB/T 2567	MPa	71
		(psi)	(1.0 x 10 ⁴)
Tensile Modulus	GB/T 2567	MPa	3805
		(psi)	(5.4x 10 ⁵)
Elongation at Break	GB/T 2567	%	2.2
Flexural Strength	GB/T 2567	MPa	150
		(psi)	(2.2x 10 ⁴)
Flexural Modulus	GB/T 2567	MPa	3363
		(psi)	(5.3 x 10 ⁵)

Package

Resin

Carton box 25kg/box

Handling Precautions

Personal Protection Equipment...	1.	Wear protection gloves to avoid direct contact with skin.
Respiratory Protection.....	2.	No special protection.
Eyes Protection.....	3.	Chemical anti-splattering goggles and face guard are recommended.
Body Protection.....	4.	Use a protection coat which can be resisted, protection shoes, gloves, coat and emergency shower equipment according to situations.

First aid

Skin.....		Wash with warm soap water for at least 5 minutes or the contaminant removed.
Eyes.....	1.	Contamination of the eyes by resin, hardener or mix should be treated immediately by flushing with clean, running water or physiologic saline for 20 minutes or the contaminant removed.
	2.	A doctor should then be consulted.
Inhalation.....	1.	Anyone taken ill after inhaling vapors should be moved outdoors immediately.
	2.	In all cases of doubt, call for medical assistance.

Important notice:

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