High Tg Resin System

3434-3E

HANKUK CARBON

3434-3E resin system is based on 350℉ (177°C) curable epoxy resin. It is suitable for the realization of high performance composite structure. In particular, it is suitable for a composite material requiring high thermal properties.

COMPOSITE PROPERTIES

UD Tape

TYPE			T-700S	METHOD
Tensile	Strength, ksi	RT	325 MPa	ASTM D3039
	Modulus, Msi	RT	18.0 GPa	
Compression	Strength, ksi	RT	223 MPa	ASTM D695 Modified
		150℃	164 MPa	
		200℃	138 MPa	
		Hot/Wet, 82℃	204 MPa	
	Modulus, Msi	RT	15.3 GPa	
		150℃	15.6 GPa	
		200℃	-	
		Hot/Wet, 82℃	16.0 GPa	
ILSS	Strength, ksi	RT	17.8 MPa	ASTM D2344
Flexural	Strength, ksi	RT	289 MPa	ASTM D790
		200 ℃	149 MPa	
	Modulus, Msi	RT	16.6 GPa	
		200 ℃	16.7 GPa	
Interlaminar Fracture Toughness	GIC(DCB), in-lbf/in2	RT	233 J/m^2	BSS 7273(GIC),
	GIIC(ENF), in-lbf/in2	RT	611 J/m^2	BMS 8-276(GIIC)

※ The prepreg for mechanical testing is the carbon UD prepreg (FAW : 100 gsm, R/C : 36±2 wt.%) using T-700S.

Tel 82-55-350-8888, Fax 82-55-350-0088, Web www.hcarbon.com

THERMAL PROPERTIES

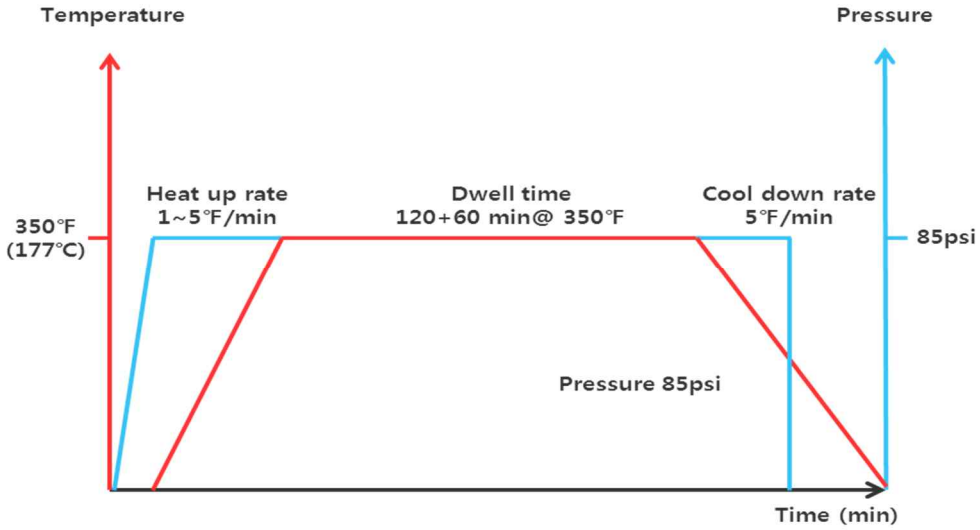
PROPERTY	VALUE (Dry)
Storage modulus onset	210℃
Loss modulus peak	226℃
Tan-delta peak	234℃

※ Thermal properties were measured by Dynamic mechanical analysis (DMA) at 25-250℃, 10℃/min.

PROCESSING CONDITION

TEMPERATURE	CURING TIME
180℃	120 min

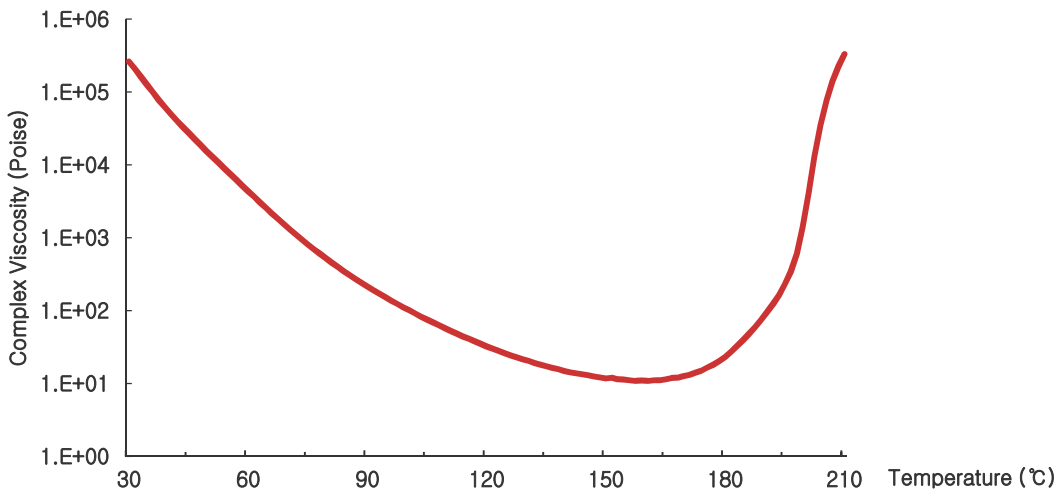
Typical autoclave cure cycle is shown as below.



RHEOLOGY

HEATING RATE	MINIMUM VISCOSITY
3℃/min	11 Poise

The viscosity of 3434-3E was measured according to the rate of temperature rise of 3℃/min.



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SHELF LIFE

STORAGE TEMPERATURE	SHELF LIFE
Room Temperature +21℃	20 Days
Cold Storage -5℃	1.5 month
Frozen -21℃	12 month

HANDING & USE

Prepreg which is impregnated with 3434-3E resin system must be stored in a freezer. When material is removed from the freezer, it is essential that the roll be allowed to thaw and reach room temperature before the plastic bag is opened. For example, the thaw time for a 20 linear meter roll taken from -18℃(0°F)storage into a 21℃(70°F) room is typically between 4 and 6 hours. Condensation may form on the surface of the material. if it is not fully thawed. Moisture within a curing laminate may be detrimental to final part quality and appearance. When materials are returned to the freezer, they must be resealed to prevent ingress of moisture.

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