High Tg Resin System

B2HT

HANKUK CARBON

B2HT resin system is suitable for a composite material requiring high thermal properties. B2HT resin system is very versatile and allows a range of cure temperature from 80℃ up to 190℃.

COMPOSITE PROPERTIES

UD Tape

PROPERTY		T700	METHOD
Tensile Strength	RT	2213 MPa	ASTM D 3039
Tensile Modulus	RT	122 GPa	
Compressive Strength	RT	1482 MPa	ASTM D 695
	80℃	1245 MPa	
Compressive Modulus	RT	106 GPa	
	80℃	104 GPa	
Flexural Strength	RT	1869 MPa	ASTM D 790
Flexural Modulus	RT	113 GPa	
ILSS	RT	104 MPa	SACMA 8R-94

※ The prepreg for mechanical testing is the carbon UD prepreg (FAW:190 gsm, R/C:35±2 wt.%).
※ The prepreg was cured according to the typical autoclave cure cycle shown in this TDS.

THERMAL PROPERTIES

PROPERTY	VALUE
Tg by DSC, ℃	205
T onset by DSC, ℃	135
Gel time @ 130℃, sec	160~200

※ Tg defined by DSC after curing as below typical curing cycle
※ Thermal testing was measured by DMA at 40-250℃, 5℃/min

PROCESSING CONDITION

TEMPERATURE	CURING TIME	Post cure (free standing)	Tg by DMA
80℃	360min	120min @180℃	194
130℃	90min		180
150℃	60min		187
190℃	120min	-	203

* B2HT resin system has good flexibility on curing and can be cured at temperature range from 80℃ to 190℃ as shown in below table

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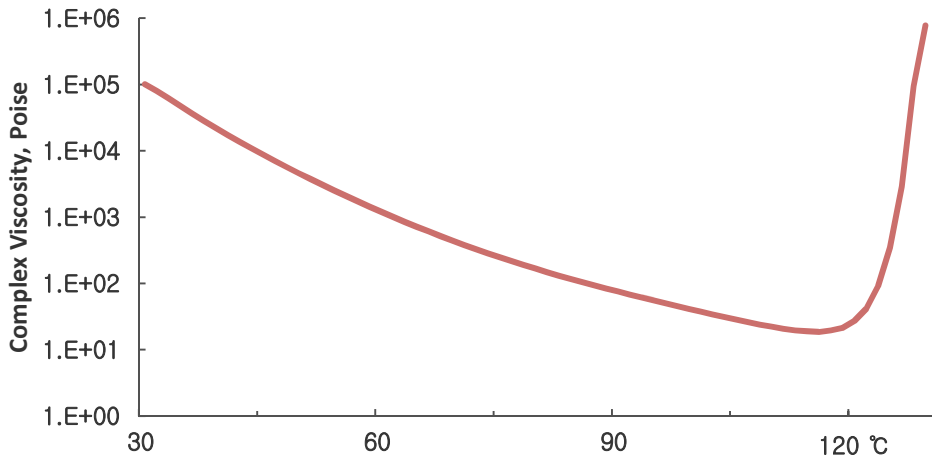
RHEOLOGY

HEATING RATE	MINIMUM VISCOSITY
3℃/min	19 Poise

The viscosity of B2HT was measured according to the rate of temperature rise of 3℃/min.



SHELF LIFE

STORAGE TEMPERATURE	SHELF LIFE
Room Temperature +21℃	1 month
Cold Storage -5℃	3 month
Frozen -21℃	12 month

HANDING & USE

Prepreg which is impregnated with B2HT 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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