

Product Description

GR3301 is a recyclable epoxy resin designed for towpreg impregnation. It has lower viscosity than other prepreg resin. It is compatible with carbon fiber, glass fiber and other fibers, and has good mechanical properties after curing. GR3301 could be applied in towpreg, and used in pressure vessel.

Typical properties of neat resin(Mixing)

Items	GR3301-A	GR3301-B	GR3301-C
Appearance	light yellow liquid	White paste	White paste
Epoxy Equivalent Weight (g/eq)	180~280	NA	NA
Viscosity (cps,50°C)	6000~12000	1000~4000	1000~4000
Viscosity of mixed(cps,50°C)	4,500~6,500		
A/B/C ratio (weight)	100 : 25 : 3.5		
Pot life@50°C	>8hrs		
Tg ^{*1}	>115		
Enthalpy ^{*2}	300~450 J/g		
Resin density	1.15~1.25 g/cm ³		
Gel time ^{*3}	120 °C : 24~30 minutes		
Curing Time ^{*4}	110 °C : 360 minutes		
	120 °C : 240 minutes		

¹ Tg is tested by DSC after cured.

² Test method: According to ISO11357-5. The ramp is 10°C/mins.

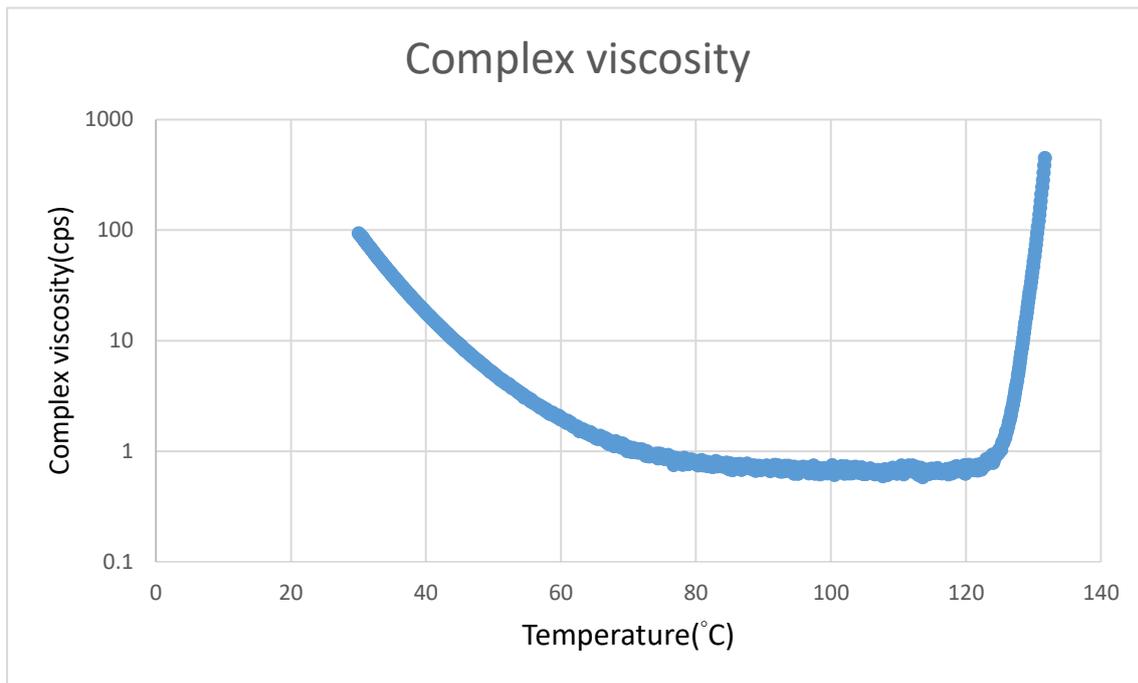
³ Test method: Equilibrate at 120°C test with Rheometer. Take the intersection of storage modulus and loss modulus.

⁴ The recommended curing cycle base on laboratory testing, and the curing cycle can be adjusted according to the process , product sizes and thickness.

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Rheology of epoxy resin(The ramp is 1°C/mins)

Item	GR3301
minimum viscosity (cps)	580
Temperature(°C)	113



Impregnation & Curing condition

1. Preheating temperature of GR3301-A should be under 70°C.
2. Mixing temperature should be 50~70°C, and could be adjusted according to process.
3. Impregnation temperature should be 50~70°C to prevent epoxy resin from overreaction.
4. GR3301 could be cured under 120°Cx4hrs or 110°Cx 6hrs, and it depends on oven, thickness, and ramp temperature.

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Notice in use

1. Please refer to the SDS for the most current safety and handling information.
2. Resin should be stored in their original, properly closed containers and stored at proper temperature. Shelf life and out life are indicated on the label.
3. It is recommended to heat appropriate amount before use, properties could be affected while re-heated.
4. During operation, operators should wear clean, impervious gloves to avoid skin contact and prevent contamination of the material.

Storage Life

Shelf Life after mixing: 1 months at 23°C / 6 months at 0°C/ 12 months at -18°C
Shelf life GR3301-A: 12 months at 23°C
Shelf life GR3301-B: 6 months at 23°C
Shelf life GR3301-C: 1 months at 8°C

PACKAGE

GR3301-A:	20/200KG in 5/55 gallon barrel
GR3301-B:	20KG in 5/55 gallon barrel
GR3301-C:	20KG in 5/55 gallon barrel

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