

# 1102



## 250-300°F (120-150°C) Cure Epoxy Adhesive Prepreg

### Typical applications

Aerospace  
Sporting goods  
Marine  
Wind energy  
Industrial manufacturing

### Out life

30 days at 70°F (21°C)

### Shelf life

6 months at 40°F (4°C)  
12 months at 0°F (-18°C)

### Description

1102 is a 250-300°F (120-150°C) cure, toughened, general purpose controlled flow epoxy prepreg designed for one-step assembly of fiber glass, carbon, and aramid faced sandwich panels. Versatile processing, excellent mechanical properties, and long out time make 1102 suitable for a variety of applications requiring high strengths.

### Benefits/features

- Toughened
- Self-adhesive prepreg
- Controlled resin flow
- Good tack and processability
- Excellent for sandwich structures and panels

### Application

1102 is well suited for structural and secondary applications in aerospace, sporting goods, radomes, marine, wind energy, and industrial manufacturing where good adhesion strength and toughness is required.

1102 can be supplied with most commercially available woven fabric fibers (carbon, quartz, aramid, S-glass, E-glass, etc.)

### Recommended processing conditions

1102 can be cured at temperatures from 250-300°F (120-150°C), depending on part size and complexity. Low, medium, and high pressure molding techniques may be used for curing. Recommended cure cycle is 25 psi (172 kPa), 3°F (1.7°C) /min. ramp to 285°F (141°C), hold for 45 minutes, cool to <140°F (60°C).

Please contact your account manager or MCCFC technical support to discuss specific applications.



MITSUBISHI CHEMICAL  
CARBON FIBER AND COMPOSITES

Technical Data Sheet



## Neat resin (values are average and do not constitute a specification)

Property	Measured value
Gel time @ 275°F (135°C), minutes	5 - 7
Specific gravity	1.20
T <sub>g</sub> (DMA, E'), °F (°C)	221 (105)
CTE (ppm/°C)	60±10 (below T <sub>g</sub> )

## Mechanical data (values are average and do not constitute a specification)

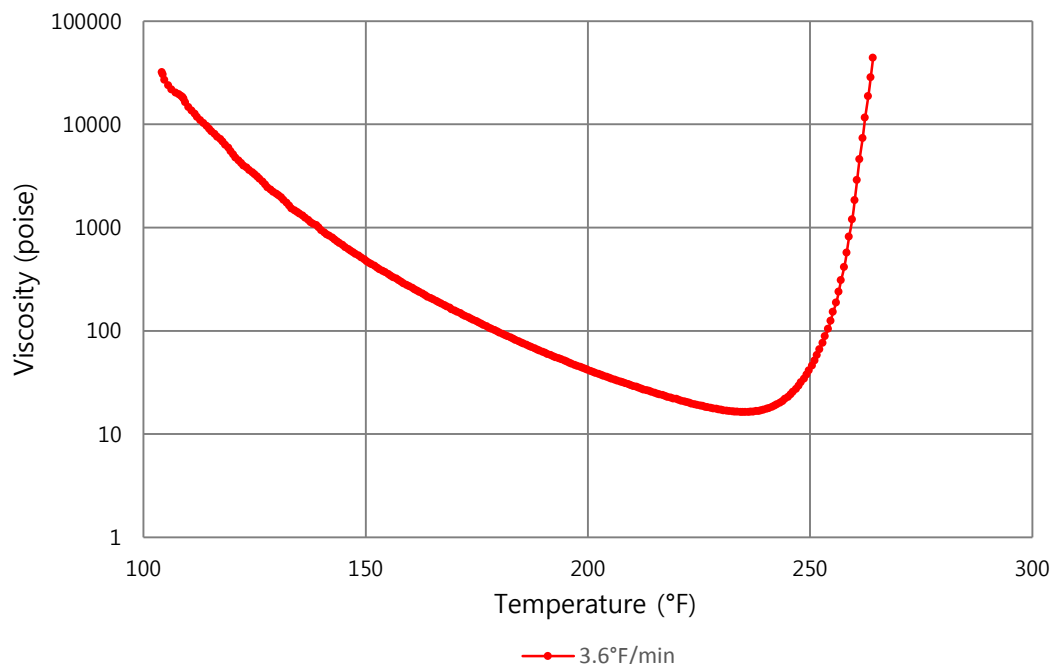
7781 E-glass fabric, 38%RC, preheated press, 25 psi, 1 hour at 275°F, normalized to 60%FV

Property	Test method	RT	180°F (82°C)	140°F <sub>wet</sub> (60°C <sub>wet</sub> )
0° Tensile strength, ksi (MPa)	ASTM D3039	78.8 (543)	73.7 (508)	56.8 (391)
0° Tensile modulus, Msi (GPa)		4.49 (30.9)	4.57 (31.5)	4.42 (30.4)
0° Compression strength, ksi (MPa)	SACMA 1R-94	98.0 (675)	69.7 (480)	63.5 (437)
0° Flexural strength, ksi (MPa)	ASTM D790	120 (827)	86.4 (595)	68.9 (475)
0° Flexural modulus, Msi (GPa)		4.28 (29.5)	3.84 (26.4)	3.67 (25.3)
0° SBS Strength, ksi (MPa)	SACMA 8R-94	8.20 (56.5)	5.10 (35.1)	3.50 (24.1)

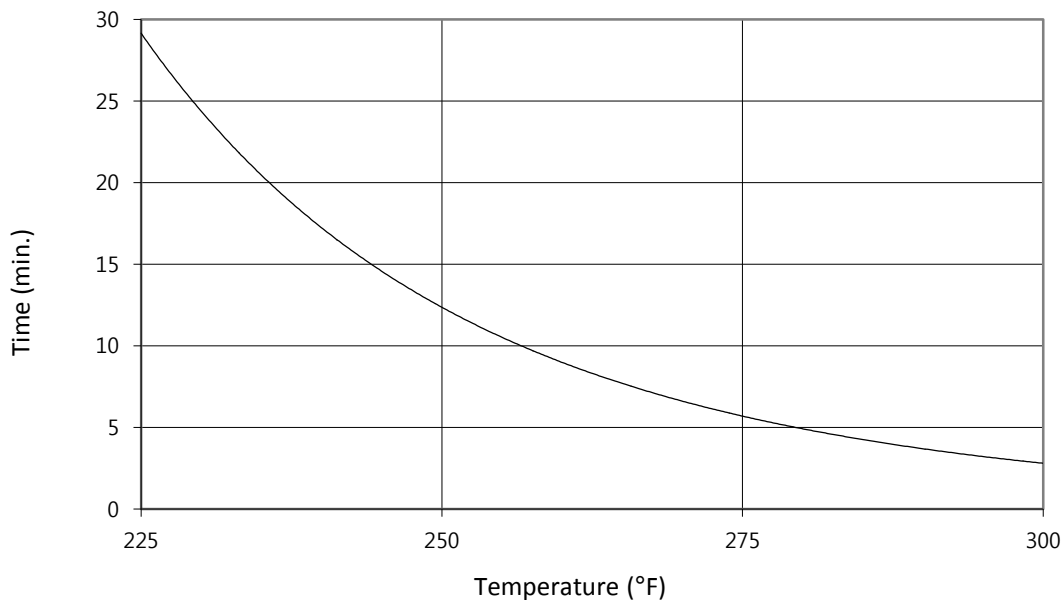


## 1102 Viscosity vs. temperature

TA - AR2000 parallel plate rheometer



## Gel time vs. temperature



The information contained herein has been obtained under controlled laboratory conditions and are typical or average values and do not constitute a specification, guarantee, or warranty. Results may vary under different processing conditions or in combination with other materials. The data is believed to be reliable but all suggestions or recommendations for use are made without guarantee. You should thoroughly and independently evaluate materials for your planned application and determine suitability under your own processing conditions before commercialization. Furthermore, no suggestions for use or material supplied shall be considered a recommendation or inducement to violate any law or infringe any patent.

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