

# 1101



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

### Typical applications

Aerospace  
Sporting goods  
Marine  
Wind energy  
Industrial manufacturing

### Out life

7 days at 70°F (21°C)

### Shelf life

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

### Description

1101 and 1101-331 are 250°F (120°C) to 300°F (150°C) cure, modified epoxy prepregs designed for one-step assembly of fiberglass and aramid faced sandwich panels for applications requiring high strength at temperatures from -67°F (-55°C) to 200°F (93°C).

### Benefits/features

- Self-adhesive prepreg
- High sandwich panel bond strength
- Co-curable with most 250°F (120°C) curing prepregs
- Meets NASA outgassing requirements

### Variants

- 1101-331 - Increased tack and flow

### Application

1101 is suited for structural and secondary applications in aerospace, sporting goods, marine, wind energy, and industrial manufacturing where good adhesion strength and toughness is required.

1101 can be supplied with most commercially available fibers in woven form (designated as NB) including: carbon, quartz, aramid, S-glass, E-glass, other specialty fibers and fabrics

Woven fabrics are available in standard commercial widths up to 60 inches (1.5 M).

### Recommended processing conditions

1101 can be cured at temperatures from 250°F (121°C) to 300°F (149°C) depending on part size and complexity. Low, medium, and high pressure molding techniques may be used to cure 1101. Recommended cure cycle is 25 psi (172 kPa), 3°F (1.7°C)/min. ramp to 275°F (135°C), hold for 60 minutes, cool to <140°F (60°C).

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





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

Property	Measured value
Gel time @ 275°F (135°C), minutes	3 - 6
Gel time @ 250°F (121°C), minutes	7 - 10
Specific gravity	1.20
T <sub>g</sub> (DMA, E'), °F (°C)	230 (110)

## Outgassing data (per ASTM E-595, values are average and do not constitute a specification)

Property	7781 E-glass fabric
Average value TML (total mass loss)	0.41%
Average value WVR (water vapor regain)	0.23%
Percent CVCM (collected volatile condensable materials)	0.08%

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

7781 E-glass fabric, 40%RC, press cured, 25 psi, 275°F, 60 min., as tested

Property	Test method	-67°F	RT	160°F
0° Tensile strength, ksi (MPa)	ASTM D3039	--	65 (448)	48 (331)
0° Tensile modulus, Msi (GPa)		--	3.5 (24.1)	3.3 (22.7)
0° Compression strength, ksi (MPa)	SACMA 1R-94	--	63 (434)	40 (276)
0° Compression modulus, Msi (GPa)		--	3.4 (23.4)	3.0 (20.7)
0° Flexural strength, ksi (MPa)	ASTM D790	--	87 (600)	42 (290)
0° Flexural modulus, Msi (GPa)		--	3.2 (22.1)	3.0 (20.7)
Short beam shear strength, ksi	SACMA 8R-94	--	7.5 (51.7)	--
Climbing drum peel strength, lb-in/3in (Nm/76mm)	ASTM D1781	20 (2.26)	35 (3.95)	28 (3.16)
Flatwise tensile strength, psi (MPa)	ASTM C297	790 (5.45)	900 (6.21)	800 (5.52)

3K PW Carbon fabric, 40%RC, autoclave cured, 25 psi, 250°F for 60 min., as tested

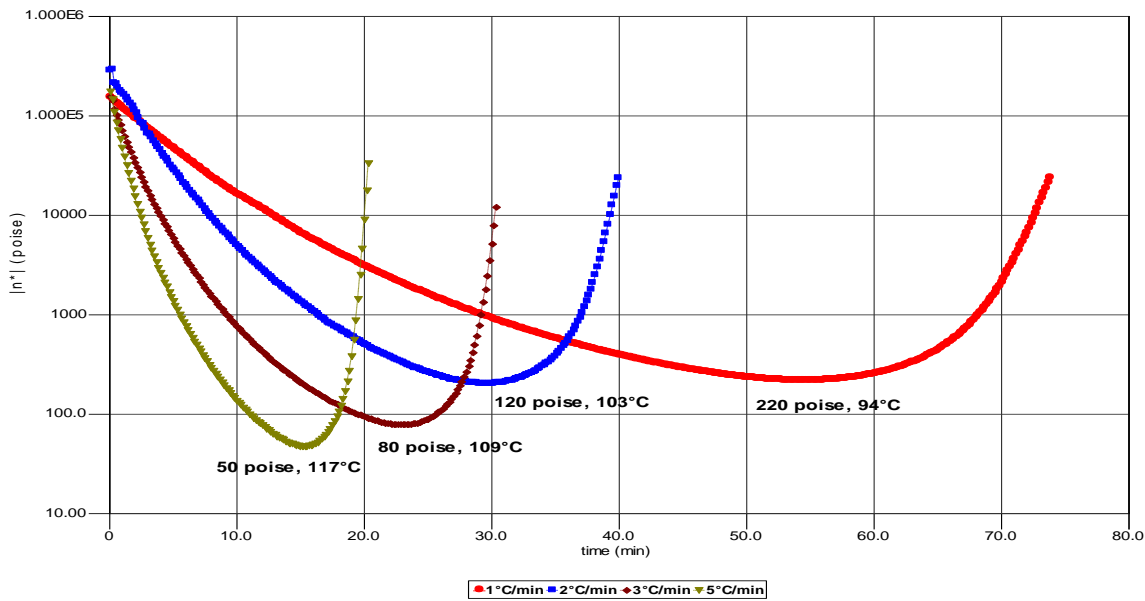
Property	Test method	RT	160°F
0° Tensile strength, ksi (MPa)	ASTM D3039	108 (745)	100 (689)
0° Tensile modulus, Msi (GPa)		7.8 (53.8)	7.4 (51.0)
0° Compression strength, ksi (MPa)	SACMA 1R-94	68 (469)	--
0° Compression modulus, Msi (GPa)		7.3 (50.3)	--
0° Flexural strength, ksi (MPa)	ASTM D790	99 (682)	7.2 (49.6)
0° Flexural modulus, Msi (GPa)		7.6 (52.4)	7.1 (49.0)
Short beam shear strength, ksi (MPa)	SACMA 8R-94	8.2 (56.5)	--

285 Aramid fabric 55%RC, autoclave cured, 45 psi, 275°F for 90 min., as tested

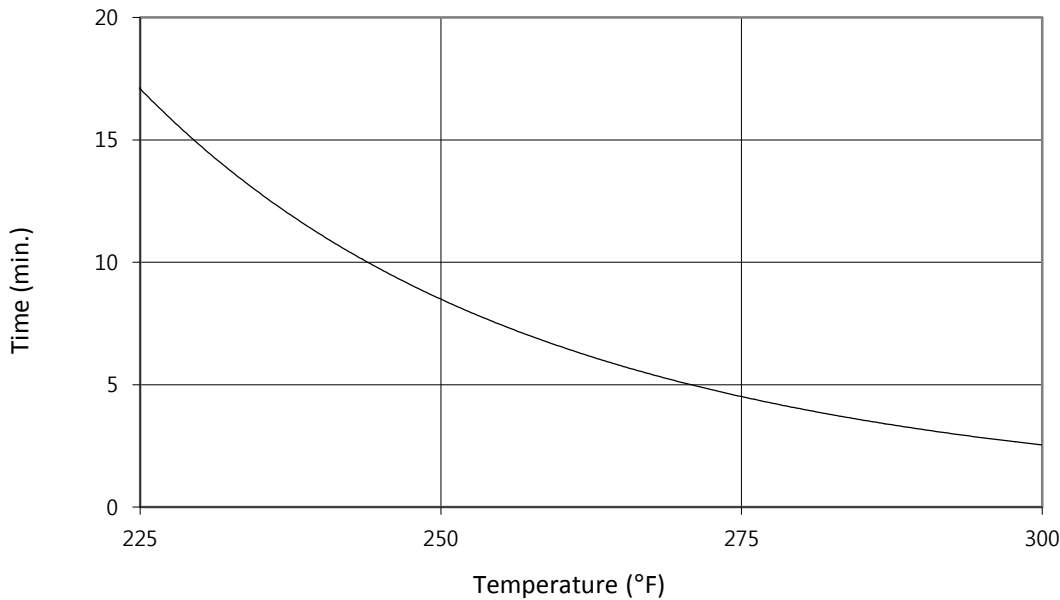
Property	Test method	RT	160°F
0° Tensile strength, ksi (MPa)	ASTM D3039	65 (448)	48 (331)
0° Tensile modulus, Msi (GPa)		4.2 (29.0)	3.4 (23.4)
0° Compression strength, ksi (MPa)	SACMA 1R-94	24 (165)	19 (131)
0° Compression modulus, Msi (GPa)		3.6 (24.8)	3.0 (20.7)
0° Flexural strength, ksi (MPa)	ASTM D790	53 (365)	42 (290)
0° Flexural modulus, Msi (GPa)		3.4 (23.4)	3.6 (24.8)
Short beam shear strength, ksi (MPa)	SACMA 8R-94	6.4 (44.1)	--

# 1101 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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Technical Data Sheet