

5300-1A



160-300°F (70-150°C) Cure Epoxy Film Adhesive

Typical applications

Sporting goods
Medical
Marine
Industrial

Out life

45 days at 70°F (21°C)

Shelf life

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

Description

5300-1A is a 160°F (71°C) to 300°F (149°C) cure epoxy film adhesive resin system. Versatile processing, excellent mechanical properties, and long out life make 5300-1A suitable for a variety of applications.

Benefits/features

- Excellent low temperature cure capability, as low as 160°F (71°C)
- Capable of fast cure at elevated temperature
- Excellent mechanical properties
- Versatile processing

Application

5300-1A is supplied in standard film weights from 0.030 to 0.090 psf (150-450 gsm), either unsupported or on a variety of commercially available reinforcements, including:

- Non-woven polyester carrier (HC)
- Nylon mesh (N), and tricot (TR)
- Unsupported (U)
- Metal meshes for electrical management

Recommended processing conditions

5300-1A can be cured at temperatures from 160°F (71°C) to 300°F (149°C) depending on part size and complexity. Suitable for vacuum bag, autoclave and press cure with low, medium and high pressures. Large scale structures can be cured as low as 160°F (71°C) with extended cure times. The recommended cure conditions are listed in the table below using a 3°F/min (1.7°C/min) ramp rate.

| Cure temperature °F (°C) | Cure time |
|-----------------------------|-----------|
| 160 (71) | 16 hrs |
| 180 (82) | 8 hrs |
| 212 (100) | 1 hr |

| Cure temperature °F (°C) | Cure time |
|-----------------------------|------------------|
| 250 (121) | 20 – 30 mins |
| 275 (135) | 10 - 20 mins |
| 300 (149) | 5-10 (max.) mins |

Parts requiring a high T_g may need a post cure. Please contact your account manager or MCCFC technical support to discuss specific applications.



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Technical Data Sheet



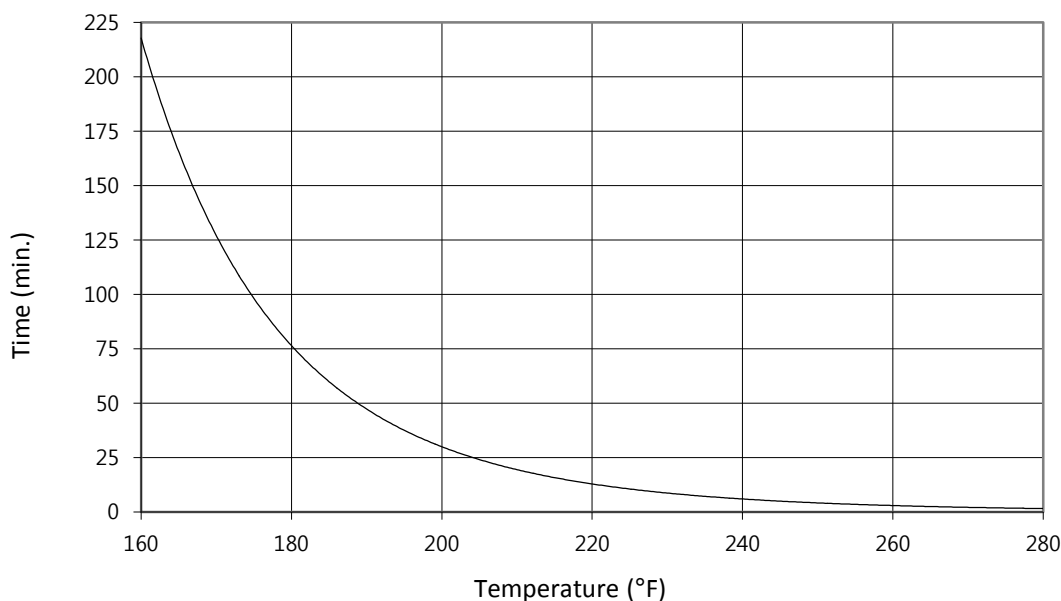
Neat resin [values are average and do not constitute a specification]

| Property | Value |
|--|-----------|
| Gel time @ 230°F (110°C), minutes | 6-10 |
| Gel time @ 275°F (135°C), minutes | 1-2.5 |
| Specific gravity | 1.17 |
| T _g (DMA, E'), °F (°C) _{20min. @ 275°F} | 270 (133) |
| T _g (DMA, E'), °F (°C) _{8hours @ 180°F} | 245 (118) |
| T _g (DMA, E'), °F (°C) _{16hours @ 160°F} | 230 (110) |

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

| Property | Test method | Cure Temp./Time | Conditons | Requirements |
|------------------------------------|-------------|--------------------|--------------|--------------|
| CD Peel strength, in-lbs/in (Nm/m) | ASTM D1781 | 160°F for 16 hours | Oven; Vacuum | 8.2 (36.5) |
| | | 180°F for 8 hours | Oven; Vacuum | 9.2 (40.9) |
| | | 275°F for 20 min. | Press; 25psi | 14.4 (64.1) |
| Lap Shear, psi (MPa) | ASTM D1002 | 160°F for 16 hours | Oven; Vacuum | 2620 (18.1) |
| | | 180°F for 8 hours | Oven; Vacuum | 3370 (23.2) |
| | | 275°F for 20 min. | Press; 60psi | 4110 (28.3) |

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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