

4565HT



375°F (190°C) Cure Toughened BMI Resin System

Typical applications

Tooling
Engine components
Hi-temp structural components

Tack Life

21 days at 70°F (21°C)

Out life

28 days at 70°F (21°C)

Shelf life

6 months at 40°F (4°C)

18 months at 0°F (-18°C)

Description

4565HT or (High T_g) is a toughened bismaleimide (BMI) resin system. Versatile processing, excellent mechanical properties make 4565HT especially suited for aerospace, general aviation, and industrial markets.

Benefits/features

- High T_g of 700°F (371°C)
- Intrinsically toughened
- Medium-high flow
- Good drape
- Medium tack
- Excellent thermal cycling

Application

Due to 4565HT's high T_g and excellent mechanical properties, typical applications include primary and secondary aircraft structures and areas where hot/wet performance and impact resistance are important (i.e. fuselage skins, engine nacelles, wing spars and skins, etc.) This material can be used to manufacture high temperature tooling, providing extended tool life when compared to standard epoxy options.

4565HT can be supplied with most commercially available fibers (carbon, quartz, aramid, S-glass, E-glass, etc.) in both woven, unidirectional tape, and hot melt tow.

Woven fabrics are available in standard commercial widths up to 50 inches (1.2 m) with typical fiber weights ranging from 193 – 680 gsm (0.040 – 0.139 psf). Unitape widths up to 50 inches (1.2 m) are available in standard fiber weights ranging from 70 – 300 gsm (0.014 – 0.060 psf).

Processing conditions

4565 is typically processed using an autoclave. Our recommended cure cycle is as follows. Use a ramp rate of 3°F/min (1.7°C/min). Apply full vacuum and 100psi (690kPa). Ramp to 250°F (121°C) and hold for 45 min, ramp to 375°F (190°C) and cure for 6 hours, cool to <140°F (60°C) before removal. Apply free standing post cure @375°F (190°C) for 1 hour, ramp to 510°F (266°C) and hold for 4 hours, cool to <140°F (60°C) before removal.

Alternate cure cycles available depending on final T_g requirements and part thickness.

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



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Technical Data Sheet

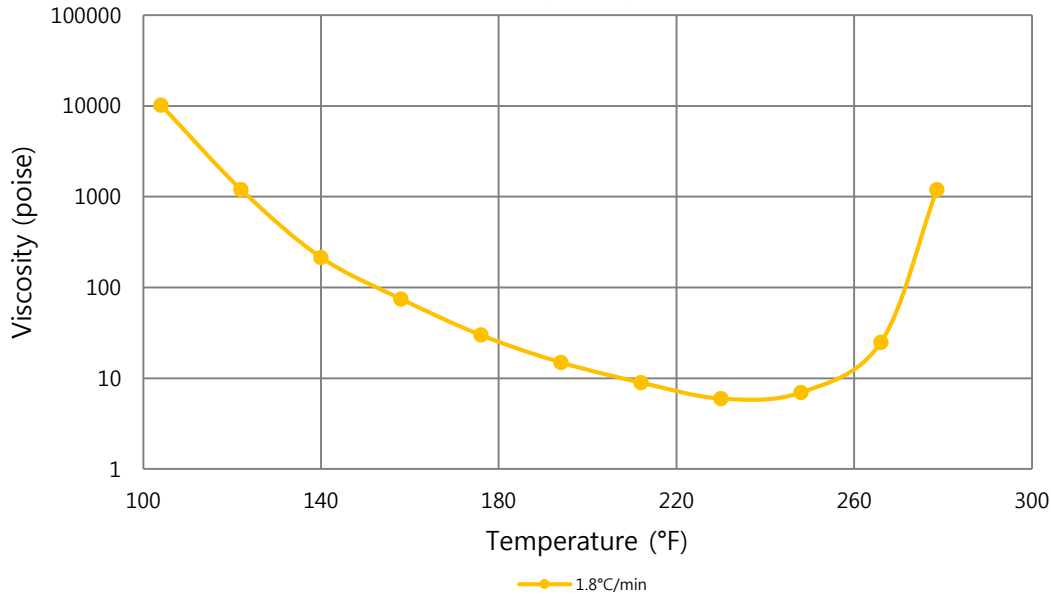
Neat resin [values are average and do not constitute a specification]

Property	Value
Gel time @ 325°F (163°C), minutes	4 - 7
T _g * Dry (DMA, E'), °F (°C)	700 (371)*
CTE, (ppm/°C)	32.9

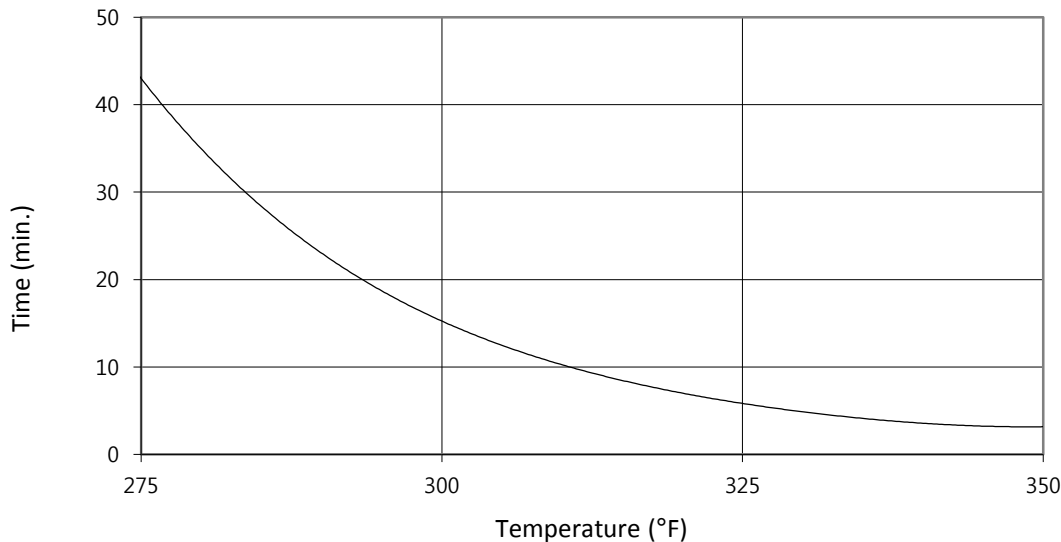
* Post cure: 3°F/min, 1 hour @ 275°F, 6 hours @ 510°F, cooled slowly

4565HT 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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