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Technical Bulletin

MEDIUM INFUSION EPOXY – A-298/B-225

Description:

Medium Infusion Epoxy is a two-component, very low viscosity system developed specifically for use in resin infusion and VARTM processes. Medium Infusion Epoxy was formulated to provide for rapid saturation of carbon fiber laminate, fiberglass and Kevlar. Processability parameters are enhanced due to Medium Infusion Epoxy's low mixed viscosity and wet-out potential. This system is not designed to be used in open mold applications.

Handling Properties:

RESIN VISCOSITY, cP	1,044	ASTM D 2196
RESIN DENSITY, lb./gal	9.49	ASTM D 792
HARDENER VISCOSITY, cP	39	ASTM D 2196
HARDENER DENSITY, lb./gal	7.78	ASTM D 792
COLOR	Clear	
DENSITY, lb./gal	9.02	ASTM D 792
MIX RATIO, pbv (pbw)	3/1 (3.65/1)	
MIXED VISCOSITY, cP	291	ASTM D 2196
GEL TIME (200g), min	160	ASTM D 2471
WORKING TIME*, min	120	

*The working time varies according to the temperature of the air, the epoxy and the surface to which it is applied.

Note: Above viscosities/densities measured @ 77°F.

Physical Properties:

TENSILE STRENGTH, psi	10,300	ASTM D 638
TENSILE MODULUS, psi	294,000	ASTM D 638
ELONGATION @ BREAK, %	3.16	ASTM D 638
COMPRESSIVE STRENGTH, psi	13,700	ASTM D 695
COMPRESSIVE MODULUS, psi	263,000	ASTM D 695
FLEXURAL STRENGTH, psi	17,300	ASTM D 790
FLEXURAL MODULUS, psi	1,063,000	ASTM D 790
HARDNESS, Shore D	88D	ASTM D 2240

Cure Cycle: 24hours @ Room Temperature + 8 hours @ 180°F. Test specimens for above were neat epoxy (without fiber reinforcement).

Thermal Properties:

Tg DMA Peak Tan Delta, °F (°C)*	232 (111)	ASTM 1640
Tg DMA Onset Storage Modulus, °F (°C)*	194 (90)	ASTM 1640
Heat Deflection Temperature, °F °(C)	195 (90.5)	ASTM 648
Tg DSC Ultimate	207 (97.4)	ASTM E 1356

*1 Hz, 3°C per minute.

Cure Cycle: 24 hours @ Room Temperature + 4 hours @ 250°F.

Mixing:

The storage temperature of Medium Infusion Epoxy will greatly affect the ease of mixing, application and curing time. For best results, Medium Infusion Epoxy should be stored at 70-80 °F (21-27 °C). High-performance epoxy resins may crystallize with repeated exposure to low temperatures or thermal cycling during storage. If this occurs, warm the resin to 140-160° F and stir to dissolve any crystals or solidified material. Mix RESIN WITH (hardener) for 3 minutes using a Jiffy Mixer and a slow speed drill. Mix at slow speed (less than 500 rpm) to avoid air entrainment. When adding part B to part A, be sure to scrape the sides of the hardener (part B) container in order to remove all of the hardener. This is essential to maintain proper mix ratio. DO NOT mix more material than can be used within the stated working time. REMEMBER - you will have less working time at higher temperatures.

SAFETY PRECAUTIONS

Avoid breathing of vapors. Forced local exhaust is recommended to effectively minimize exposure. NIOSH approved, organic vapor respirators and forced exhaust are recommended in confined areas, or when conditions (such as heated polymers, sanding) may cause high vapor concentrations. **DO NOT WELD ON, BURN OR TORCH ON OR NEAR, ANY EPOXY MATERIAL. HAZARDOUS VAPOR IS RELEASED WHEN AN EPOXY IS BURNED.**

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