COPPS INDUSTRIES, INC.
An ISO 9001 Certified Company

TECHNICAL BULLETIN

HIGH Tg INFUSION EPOXY – A-233/B-451

Description:

High Tg Infusion Epoxy is a two-component, very low viscosity, fast curing system developed specifically for use in resin infusion, VARTM, RTM and HP-RTM processes. High Tg Infusion Epoxy was formulated to provide for rapid saturation of carbon fiber laminate, fiberglass and Kevlar. Processability parameters are enhanced due to High Tg Infusion Epoxy's low mixed viscosity and wet-out potential.

Handling Properties:

RESIN VISCOSITY, cP	3,500	ASTM D 2196
RESIN DENSITY, lb./gal	9.90	ASTM D 792
HARDENER VISCOSITY, cP	10	ASTM D 2196
HARDENER DENSITY, lb./gal	7.84	ASTM D 792
COLOR	Lt. Straw	
DENSITY, lb./gal	9.54	ASTM D 792
MIX RATIO, pbv (pbw)	4.69/1 (5.92/1)	
MIXED VISCOSITY, cP	620	ASTM D 2196
GEL TIME (150g), min	113	ASTM D 2471
WORKING TIME*, min	90	

*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	8,600	ASTM D 638
TENSILE MODULUS, psi	98,000	ASTM D 638
ELONGATION @ BREAK, %	1.34	ASTM D 638
COMPRESSIVE STRENGTH, psi	17,200	ASTM D 695
COMPRESSIVE MODULUS, psi	305,000	ASTM D 695
FLEXURAL STRENGTH, psi	20,600	ASTM D 790
HARDNESS, Shore D	90	ASTM D 2240

Cure Cycle: 2 hours @ 150°F + 3 hours @250°F + 3 hours @ 300°F. Test specimens for above were neat epoxy (without fiber reinforcement).

Thermal Properties:

Heat Deflection Temperature, °F (°C)	263 (128.3)	ASTM D 648
Tg DSC Ultimate, °F (°C)	301 (149.7)	ASTM D 3418

Cure Cycle: 2 hours @ 150°F + 3 hours @ 250°F + 3 hours @ 300°F.

Mixing:

The storage temperature of High Tg Infusion Epoxy will greatly affect the ease of mixing, application and curing time. For best results, High Tg Infusion Epoxy should be stored at 60-80°F (16-27°C) for at least 24 hours before use. The resin and hardener need to be thoroughly blended to ensure complete dispersion. High Tg Infusion Epoxy can be measured by volume or weight using the mix ratios listed in the "Handling Properties" section. 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.**

FOR INDUSTRIAL USE ONLY

WARRANTY AND DISCLAIMER

10500 N. Commerce Street •. Mequon, WI 53092-4473
262-238-1700
www.coppsindustries.com