



COMPOSITE TECHNOLOGY DEVELOPMENT, INC.

# Technical Data Sheet

## CTD-115P Epoxy Pre-preg Resin

A Reformulated Version of CTD-112P

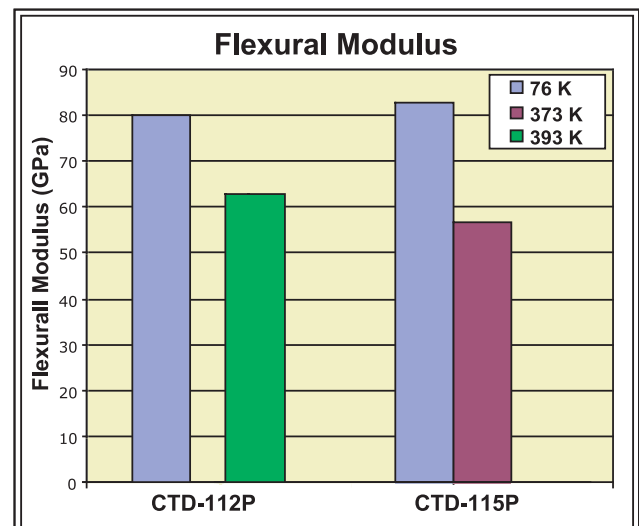
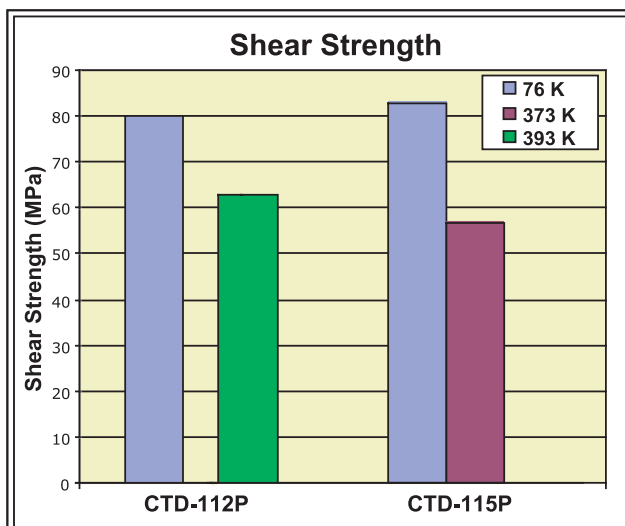
CTD-115P is a tetrafunctional epoxy resin system designed for use as a hot-melt pre-preg system with excellent processing and mechanical properties. CTD-115P uses advanced chemistry formulation to improve upon the CTD-112P pre-preg resin system, which has a proven track record as a composite insulation system for superconducting and fusion magnet systems. Due to its multifunctional chemistry, CTD-115P is suitable for use at cryogenic and elevated temperatures and is also more radiation resistant than common bi-functional epoxies. CTD-115P can be provided as a pre-preg onto any customer designated reinforcement or simply in resin form only for custom pre-pregging or wet-lay-up applications.

### Key Features:

- A hot-melt pre-preg resin system (solventless)
- Readily flows at its processing temperature (80°C) after pre-impregnation
- Improved processing properties allow better containment of resin within part
- Mechanical properties exceed or match those of CTD-112P
- Radiation resistant with low outgassing
- Non-carcinogenic with very low toxicity
- Can be supplied as either fiber reinforced pre-preg or as a resin only

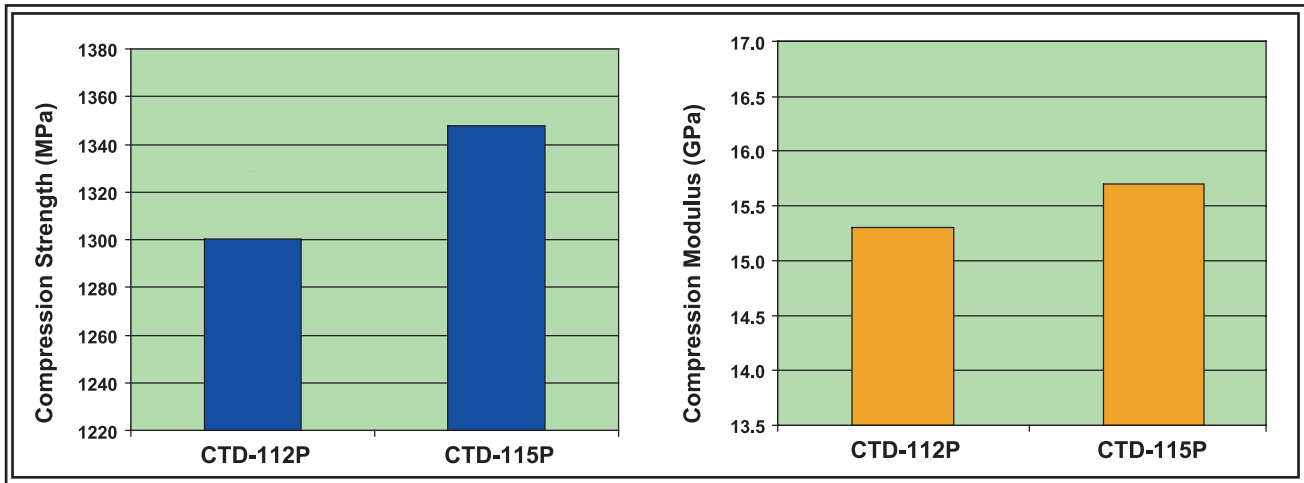
### Properties:

As seen in the following figures, CTD-115P out performs CTD-112P in both shear and compression at 76 K and matches the strength of CTD-112P at elevated temperatures. Dielectric breakdown strength is approximately 75 KVDC/mm in 0.5 mm thickness.





## Comparison of Compressive Properties at 76K



### Applications:

- Electrical Insulation for Superconducting Magnets
- Structural Composite Material for Cryogenic and Elevated Temperature Applications
- Hot/Wet Applications

**Chemical Description:** Tetrafunctional (TGDM) epoxy with modified amine curing agent.

**Cure:** 2 hours at 177°C

**Optional Post-cure:** 7 hours at 200°C

**Outlife:** 3 months at 22°C  
1 year at 0°C

**Processing:** Additional information regarding the pre-preg procedure can be obtained from CTD

*Disclaimer: The information and recommendations contained herein are based upon data believed to be accurate. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein.*