Near Net Shapes With pre-pregs?

EnableX™ is a breakthrough from Norplex-Micarta that allows continuous fiber pre-preg to be co-cured in a multi-material molding system to produce near net shapes. Building upon the predictability of continuous fiber reinforced pre-preg, EnableX™ materials are:
- Specifically designed for compression molding
- Tested to ensure compatibility
- Supported by our team of application engineers

Additionally, like all Norplex-Micarta materials, our in-house laboratory and development capabilities allow for new concepts to be prototyped, or specific datasets to be developed to support specific design criteria.

Enabling The Benefits Of Composites

Norplex-Micarta is dedicated to producing high performance thermoset composite materials. EnableX™ is the latest generation of products specifically designed to bring affordability and mass production scale to markets seeking the many advantages of composite materials, such as:
- Superior specific strength and stiffness
- Inherent chemical resistance
- Excellent dielectric properties
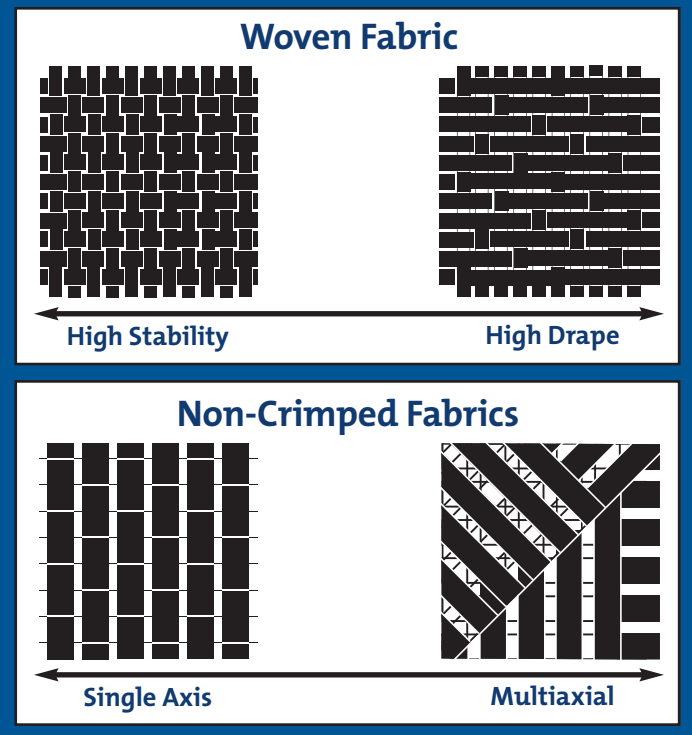- Self-lubricating and low wear
- Low FST generation

Collaborative Design Approach

Norplex-Micarta welcomes the opportunity to work with composite design veterans and those new to working with composites. We follow your lead and adapt our development approach to match your timeline and budget.

Generally, the first step is to determine the appropriate resin matrix. EnableX™ has been verified on several different epoxy and phenolic resin systems, and more are always in development. Many of these materials have been tested and can serve as a baseline for virtual modeling. Moreover, these materials are readily available to accelerate the design timeline through physical prototyping.

Reinforcement options for EnableX™ are essentially limitless. From Carbon, to Glass, to natural fibers such as Cotton or Paper, and then to fibers that significantly alter the behavior of the material such as PTFE or thermoplastics, are available in the EnableX™ system. Beyond the fibers themselves, different architectures and hybridizations of reinforcements further open the design window.

A visual representation of major fabric options.

Woven Fabric

High Stability ←→ High Drape

Non-Crimped Fabrics

Single Axis ←→ Multiaxial

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Typical properties of pre-preg material pressed into flat sheet and tested per the methods detailed below.

Test Description	ASTM Method	Orientation	Cotton Phenolic Typical Value (ksi)
Tensile Strength	D3039	0°	14
	D3039	90°	13
Tensile Modulus	D3039	0°	1,512
	D3039	90°	1,340
In-Plane Shear Strength	D3518	±45°	12
In-Plane Shear Modulus	D3518	±45°	1,355
Short-Beam Shear Strength	D2344	0°	4
	D2344	90°	4

Data above are values for the pre-preg only. Incorporation of other materials, geometry, and process variables may affect the apparent properties in any specific part. Norplex-Micarta applications engineers are available to support your analysis and design processes.

Disclaimer
This data, while believed to be accurate and based on reliable analytical methods, is for informational purposes only. The terms and conditions of the agreement under which it is sold will govern any sales of this product. Data supplied above are "typical values"; not to be considered "specification values".

To assure the material's performance is adequate for a specific application; customers should verify, independent of Norplex-Micarta, performance characteristics of interest.

It is the responsibility of the users of this information to make sure that they have the latest version of this TDB, and are urged to check with Customer Service or, preferably our web site, www.norplex-micarta.com, to determine if the information is the most current available.

Specification writers: Contact Norplex-Micarta for specification values before submission.

Full Application Engineering Support

For help determining the best EnableX™ solution for your needs, please contact a member of our application engineering support team at technology@norplex-micarta.com.

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