

## 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

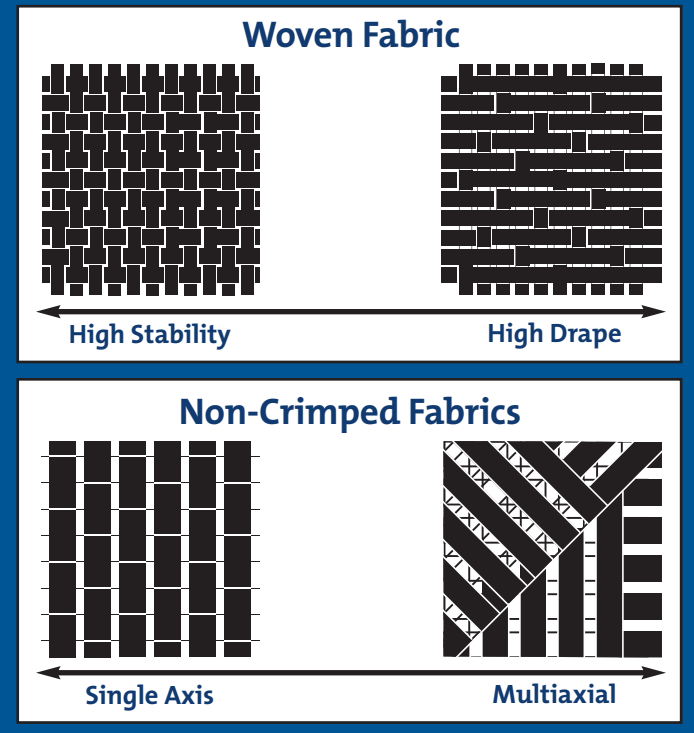
## Collaborative Design Approach

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.



Test Description	ASTM Method	Orientation	Unidirectional (0°) Theoretical Value (ksi)	Bi-axial NCF (0°/90°) Theoretical Value (ksi)	Quadraxial NCF (0°/+45°/90°/-45°) Theoretical Value (ksi)
Tensile Strength	D3039	0°	198	98	75
	D3039	90°	4	70	75
Tensile Modulus	D3039	0°	16,000	9,000	6,000
	D3039	90°	1,400	9,000	6,000
In-Plane Shear Strength	D3518	±45°	8	12	36
In-Plane Shear Modulus	D3518	±45°	500	550	2,000

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

**Disclaimer – Model Generated Data**

This data is based upon supplier data, publicly available data, and industry standard evaluation methods. It does not represent the performance of a specific Norplex-Micarta grade and is published merely as a reference without any warranty. Users of this or any Norplex-Micarta material should independently verify the performance properties of significance to their specific application. Any offer or sale of materials by Norplex-Micarta will be governed by Norplex-Micarta's terms and conditions of sale, a copy of which will be provided upon request, or found at [www.norplex-micarta.com](http://www.norplex-micarta.com).

## Full Application Engineering Support

For help determining the best EnableX<sup>TM</sup> solution for your needs, please contact a member of our application engineering support team at [technology@norplex-micarta.com](mailto:technology@norplex-micarta.com).

