



INDUSTRIAL APPLICATIONS



Aerospace



Circuit Boards



Marine

INNOVATION WITH INTEGRITY

Aerospace

Innega™ is a high performance fiber used to enhance carbon & glass composites.



Founded in 2004, Innegrity LLC is a thermoplastic fiber manufacturer located in Greer, South Carolina. Through innovative research and use of polymer science technology, Innegrity invented and patented a new fiber: Innegra™ S. This fiber has been specifically designed for use in composite materials. When combined with traditional materials used in composites, Innegra™ S enhances the performance of these fibers allowing the design of totally new engineered composite materials.

* (Patent 7,074,483 Issued 7/11/2006; 8 additional patents pending.)

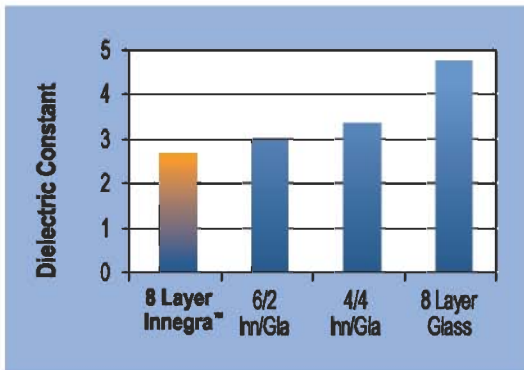
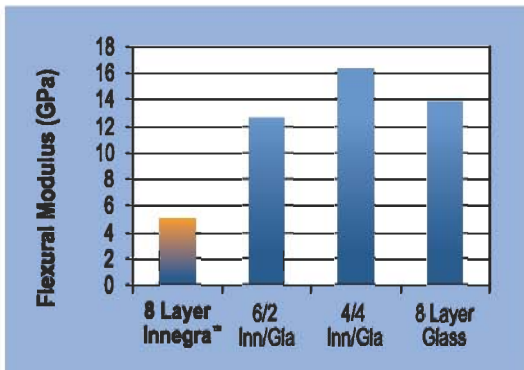
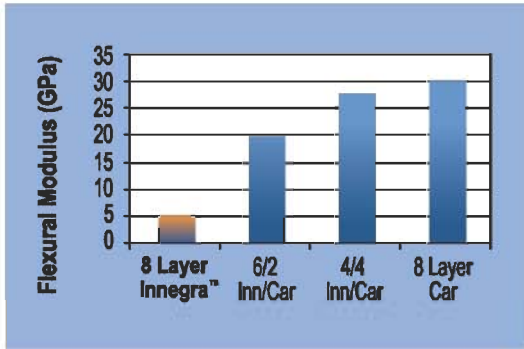
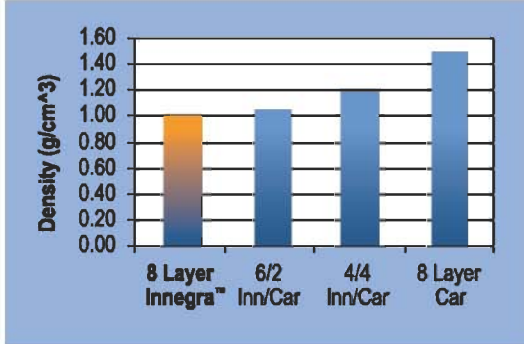
Innega™ S has a unique set of fiber character traits:

- **High modulus**
- **Great toughness**
- **Lightweight**
- **Excellent chemical resistance**
- **Low dielectric constant**

Advantages in Aerospace Applications

In aerospace composites, Innegra™ improves composite properties:

- Reduce carbon fiber consumption at same stiffness & lower cost
- Significantly lower dielectric constant & loss for radomes
- Increased toughness



INNEGRA™ – CARBON COMPOSITES

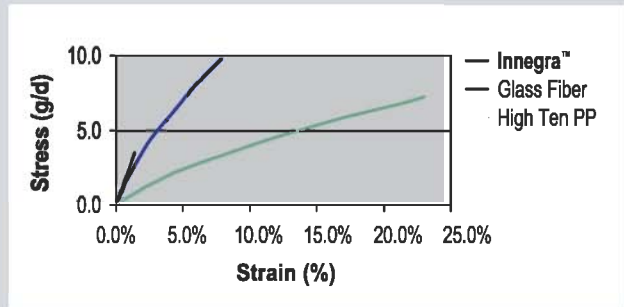
INNEGRA™ – GLASS COMPOSITES

INNEGRA™

HIGH PERFORMANCE FIBER

Innegra™ Fiber Technology Characteristics

- High modulus
- Great toughness
- Low dielectric constant (2.0) and loss (0.0002)
- Light weight (density 0.9 g/cm³)
- Excellent chemical resistance (polyolefin based)



Innegra™ fiber has high tenacity, the modulus of fiberglass, and extremely low density.

Fiber	Tenacity (g/d)	Modulus (g/d)	Toughness (g/d)
Glass	3.5	250	0.03
Innegra™	9	225	0.6
Kevlar (aramid)	23	950	0.3
Spectra (UHMWPE)	30	1400	0.7
Carbon	11	3300	0.02

Innegra™ fiber delivers a combination of strength, modulus, toughness and dielectric constant that are uniquely qualified for fiber reinforced composites.

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INNOVATION IN INTEGRITY