# Ultra-Tough Fibers and Films for Smart Textiles



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GO Film Types

# **Technology Summary**

The researchers have produced robust graphene oxide (GO) fibers with complex architectures and exceptional mechanical and electrical properties. The GO fibers have extremely large elongation to fracture (up to 76%), high toughness (up to 17 J/m3), and attractive macroscopic properties, such as uniform circular cross-section, smooth surface, and great knotability.

# Application & Market Utility

The GO fibers can be used for smart textiles and as a heating element. The films could be used for thin transparent coatings on different hydrophilic surfaces. This technology can save a considerable amount of energy for film formation. It can be even coupled to take advantage of low-grade waste heat. The technology could also be used to produce specialty carbon fibers and GO membranes for gas and organic solvent separation technology.

# Next Steps

Seeking research collaboration and licensing opportunities.

## TECHNOLOGY READINESS LEVEL 4-7

## Seeking

Investment | Licensing | Research

## Keywords

- Graphene Oxide (GO)
- Smart Textiles
- Gas Separation Technologies
- Fiber Composites
- U.S. Patent No. 9,284,193

### Researchers

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