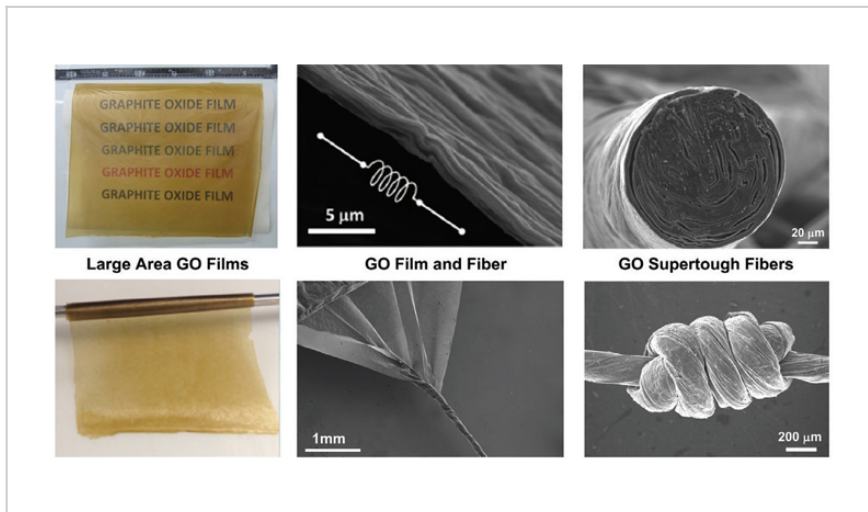


# Ultra-Tough Fibers and Films for Smart Textiles

ID# 2013-4145



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/m<sup>3</sup>), 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

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