



HexTow® HM63

Carbon Fiber (Industrial)



Product Data Sheet

HexTow® HM63 carbon fiber is a continuous, high strength, high performance, high modulus, PAN based carbon fiber available in 6,000 (6K) and 12,000 (12K) filament count tows. This fiber has been surface treated and sized to improve its handling characteristics, interlaminar shear strength, compressive strength, and structural properties. It is suggested for use in premium sporting goods and industrial applications.

The unique properties of HexTow® HM63 fiber, such as higher tensile strength and modulus, as well as shear and compressive strength, allow structural designers to achieve both higher safety margins for both stiffness and strength critical applications. HexTow® HM63 is International Monohull Open Class Association (IMOCA) certified/qualified.

| Typical Fiber Properties | U.S. Units | SI Units |
|------------------------------------|---|------------------------|
| Tensile Strength | 630 ksi | 4344 MPa |
| Tensile Modulus (Chord 6000-1000) | 63.0 Msi | 435 GPa |
| Tensile Modulus (Tangent 1/2 Load) | 65.6 Msi | 452 GPa |
| Ultimate Elongation at Failure | 1.0% | 1.0% |
| Density | 0.0661 lb/in ³ | 1.83 g/cm ³ |
| Weight/Length | | |
| 6K | 11.8 x 10 ⁻⁶ lb/in | 0.210 g/m |
| 12K | 23.6 x 10 ⁻⁶ lb/in | 0.422 g/m |
| Approximate Yield | | |
| 6K | 7088 ft/lb | 4.76 m/g |
| 12K | 3527 ft/lb | 2.37 m/g |
| Tow Cross-Sectional Area | | |
| 6K | 1.80 x 10 ⁻⁴ in ² | 0.12 mm ² |
| 12K | 3.57 x 10 ⁻⁴ in ² | 0.23 mm ² |
| Filament Diameter | 0.195 mil | 4.9 microns |
| Carbon Content | 99% | 99% |

Carbon Fiber Certification

This carbon fiber is manufactured to Hexcel industrial grade specification HS-CP-3500. A copy of this specification is available upon request. A Certification of Analysis will be provided with each shipment.

Available Sizing

Sizing compatible with various resin systems, based on application are available to improve handling characteristics and structural properties. Please see additional information on available sizes on our website or contact our technical team for additional information.

Sizing

| Size | Compatibility | Recommended Uses |
|---------|--|---|
| GP | Epoxy, Phenolic, Vinyl Ester, Polyurethane, Cyanate Ester, BMI | Weaving, Filament Winding, Prepreg Tape |
| Unsized | All Resins | Prepreg Tape |

*Compatibility with these Matrices is considered theoretically compatible. Hexcel cannot guarantee their results.



Packaging

Standard packaging of HexTow® HM63 is as follows:

| Filament Count | Sizing | Nominal Weight | | Nominal Length | |
|----------------|---------|----------------|------|----------------|-------|
| | | (lb) | (kg) | (ft) | (m) |
| 6K | GP | 2.0 | 0.90 | 6,703 | 2,043 |
| 12K | GP | 1.8 | 0.82 | 6,347 | 1,935 |
| | Unsized | | | | |

Other package sizes may be available on request. The fiber is wound on a 3-inch ID by 11-inch long cardboard tube and overwrapped with plastic film.

Safety Information

Obtain, read, and understand the Safety Data Sheet (SDS) before use of this product.

For more information

Hexcel is a leading worldwide supplier of composite materials to aerospace and industrial markets.

Our comprehensive range includes:

- HexTow® carbon fibers
- HexForce® reinforcements
- HiMax® multiaxial reinforcements
- HexPly® preprints
- HexAM® additive manufacturing
- HexMC® molding compounds
- HiFlow® RTM resins
- HexBond® adhesives
- HexTool® tooling materials
- HexWeb® honeycomb
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed® laminates & pultruded profiles

For U.S. quotes, orders and product information call toll-free 1-800-688-7734. For other worldwide sales office telephone numbers and a full address list, please go to:

<http://www.hexcel.com/contact>

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