

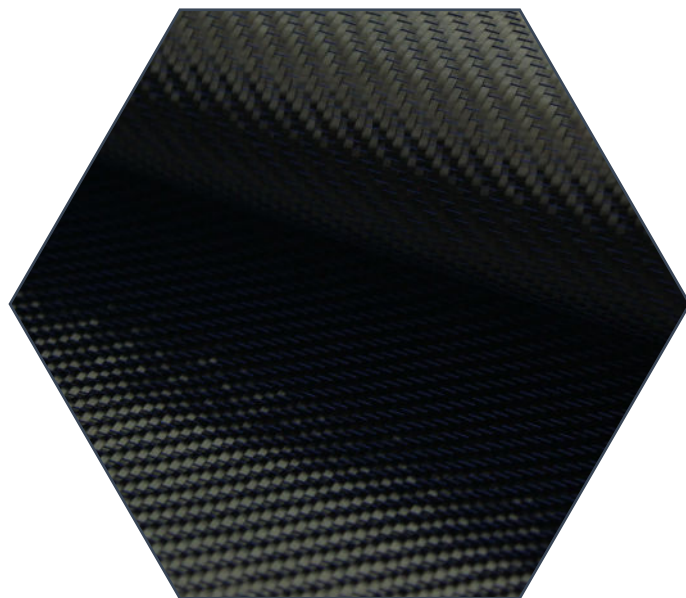


BLUE MIRAGE CARBON FIBER FABRIC 2X2 TWILL 3K HIGH DENSITY MODEL #: F-1252-50

HEXTOW® AS4 CARBON FIBER

HexTow® AS4 carbon fiber is a continuous, high strength, high strain, PAN based fiber available in 3,000 (3K), 6,000 (6K) and 12,000 (12K) filament count tows. This fiber has been surface treated and can be sized to improve its interlaminar shear properties, handling characteristics, and structural properties, and is suggested for use in weaving, prepregging, filament winding, braiding, and pultrusion.

AS4-GP 3k (1%), AS4-GP 12k (0.9%), and AS4 12k carbon fibers have been qualified to NMS 818 Carbon Fiber Specification (NCAMP). This allows customers to call out an industry standard, aerospace grade carbon fiber without the need to write and maintain their own specification.



CARBON FIBER CERTIFICATION

This carbon fiber is manufactured to Hexcel aerospace grade specification HS-CP-5000. 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.

| YARN/TOW CHARACTERISTICS | U.S. UNITS | SI UNITS |
|----------------------------------|-----------------------------|-----------------------------|
| Specific Heat | 0.28 Btu/lb-°F | 0.27 cal/g-°C |
| Electrical Resistivity | 5.6×10^{-5} ohm-ft | 1.7×10^{-3} ohm-cm |
| Coefficient of Thermal Expansion | -0.35 ppm/°F | -0.63 ppm/°C |
| Thermal Conductivity | 3.95 Btu/hr-ft-°F | 6.83 W/m-°K |



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| TYPICAL FIBER PROPERTIES | U.S. UNITS | SI UNITS |
|---|---|--|
| Tensile Strength 3K 6K 12K | 670 ksi 640 ksi 640 ksi | 4,620 MPa 4,410 MPa 4,410 MPa |
| Tensile Modulus (Chord 6000-1000) | 33.5 Msi | 231 GPa |
| Ultimate Elongation at Failure 3K 6K 12K | 1.8% 1.7% 1.7% | 1.8% 1.7% 1.7% |
| Density | 0.0647 lb/in ³ | 1.79 g/cm ³ |
| Weight/Length 3K 6K 12K | 11.8 x 10 ⁻⁶ lb/in 23.9 x 10 ⁻⁶ lb/in 48.0 x 10 ⁻⁶ lb/in | 0.210 g/m 0.427 g/m 0.858 g/m |
| Approximate Yield 3K 6K 12K | 7,086 ft/lb 3,485 ft/lb 1,734 ft/lb | 4.76 m/g 2.34 m/g 1.17 m/g |
| Tow Cross-Sectional Area 3K 6K 12K | 1.82 x 10 ⁻⁴ in ² 3.70 x 10 ⁻⁴ in ² 7.43 x 10 ⁻⁴ in ² | 0.12 mm ² 0.24 mm ² 0.48 mm ² |
| Filament Diameter | 0.280 mil | 7.1 microns |
| Carbon Content | 94.0% | 94.0% |
| Twist | Never Twisted | Never Twisted |



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| TYPICAL HEXPLY 8552 COMPOSITE PROPERTIES (AT ROOM TEMPERATURE) | U.S. UNITS | SI UNITS | TEST METHOD |
|--|------------|-----------|----------------|
| 0° Tensile Strength | 320 ksi | 2,205 MPa | ASTM D3039 |
| 0° Tensile Modulus | 20.5 Msi | 141 GPa | |
| 0° Tensile Strain | 1.55% | 1.55% | |
| 0° Flexural Strength | 274 ksi | 1,889 MPa | ASTM D790 |
| 0° Flexural Modulus | 18.4 Msi | 27 GPa | |
| 0° Short Beam Shear Strength | 18.5 ksi | 128 MPa | ASTM D2344 |
| 0° Compressive Strength | 222 ksi | 1,530 MPa | ASTM Mod. D695 |
| 0° Compressive Modulus | 18.6 Msi | 128 GPa | |
| 0° Open Hole Tensile Strength | 64 ksi | 438 MPa | ASTM D5766 |
| 90° Tensile Strength | 11.7 ksi | 81 MPa | ASTM D3039 |
| Fiber Volume | 60% | 60% | |

Information and data included in this data sheet is considered to be accurate and reliable to the best of our knowledge however it is not quaranteed to be so. It is the user/buyer's responsibility to determine for themselves the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. Composite Envisions make no representations or warranties as to the results to be obtained in using any material. As Composite Envisions cannot foresee all conditions under which products will be used, user/buyer waives any claim against Composite Envisions for direct, indirect, consequential, or exemplary damages including without limitation, damage which may incur as a result of user/buyer's use or misuse of the product or the product's failure to perform to any expected performance level.

Composite Envisions LLC
8450 Development Court
Wausau, WI 54401 USA
+1 715-842-0101
info@compositeenvisions.com
<https://compositeenvisions.com/>



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