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Intermediate Modulus Carbon Fiber (T800S)

Intermediate modulus carbon is stiffer and stronger than standard: T800S is 5,880 MPa (853 ksi) and 294 GPa (42.7 Msi), 20% stronger and 28% stiffer than T700S, at the same density.

T800S against T700S (Toray data sheets)

Property	T700S standard modulus	T800S intermediate modulus
Tensile strength	711 ksi (4,900 MPa)	853 ksi (5,880 MPa)
Tensile modulus	33.4 Msi (230 GPa)	42.7 Msi (294 GPa)
Strain at failure	2.1%	2.0%
Density	1.80 g/cm³	1.80 g/cm³
Filament diameter	7 µm	5 µm
Yield, 12K tow	800 g/1000 m	515 g/1000 m
Laminate tensile strength (60% Vf)	415 ksi (2,860 MPa)	477 ksi (3,290 MPa)
Laminate tensile modulus (60% Vf)	19 Msi (134 GPa)	24 Msi (163 GPa)
Laminate compressive strength	210 ksi (1,450 MPa)	216 ksi (1,490 MPa)
ILSS	13 ksi (86.9 MPa)	13 ksi (87.9 MPa)

Key points

- **Lot averages, not allowables.**
- **Not interchangeable with standard modulus** in a repair without approved data.

SOURCES · Toray Composite Materials America, TORAYCA T800S Intermediate Modulus Carbon Fiber Data Sheet · Toray Composite Materials America, TORAYCA T700S Standard Modulus Carbon Fiber Data Sheet · FAA-H-8083-31B, AMT Handbook — Airframe, Volume 1, Chapter 7

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Educational reference only, not approved data. Always consult the applicable SRM, AMM, or AC 43.13-1B and your certifying authority.