

High-strength and High-modulus Carbon Fiber TORAYCA® T1100G

Toray's new high-strength and high-modulus carbon fiber TORAYCA® T1100G solves the age-old challenge of achieving high strength and high modulus.

Behind the high strength and high modulus of its newly developed carbon fiber TORAYCA® T1100G is Toray's sintering technology that allows for fine nano-level control of fiber structure. The result is a substantial performance improvement over Toray's other carbon fibers including TORAYCA® T1000G and T800S that are used widely in aerospace and other high-end applications.

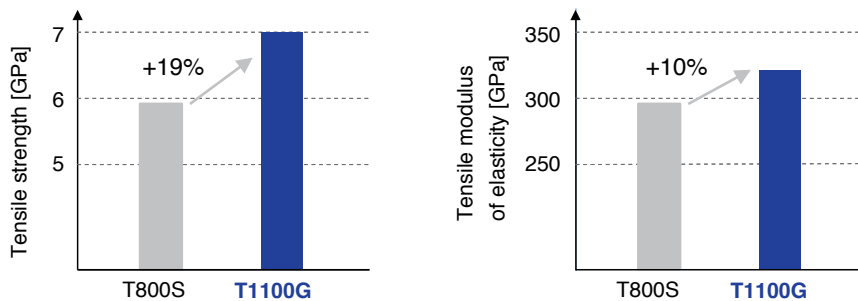
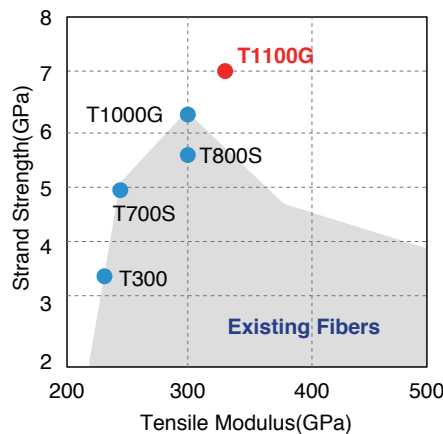


Figure 1. T800S vs. T1100G comparison of tensile strength/modulus of elasticity

Item	T1100G	T1000G	T800S
Tensile strength [GPa]	7.0	6.4	5.9
Tensile modulus of elasticity [GPa]	324	294	294

Table 1. Characteristics of tensile strength and modulus of T1100G

Toray has developed a new matrix resin technology which uses nano-alloy-based technology to achieve both tensile strength and compressive strength, and combines TORAYCA® T1100G with its matrix resin technology. This generates prepreg materials that can meet the levels of performance required by structural members in the aerospace industry, and also by high-end sporting equipment.



Product	Characteristics	Key applications
T1100G	High strength and high modulus	Primary aircraft structure, launch rocket, sports
T1000G	High strength and medium modulus	Launch rocket, sports
T800S	High strength and medium modulus	Primary aircraft structure, sports
T700S	High strength and standard modulus	Primary aircraft structure, general industrial, sports
T300	Standard modulus	Secondary aircraft structure, general industrial, sports

Table 2. Lineup/Applications of carbon fiber TORAYCA® products