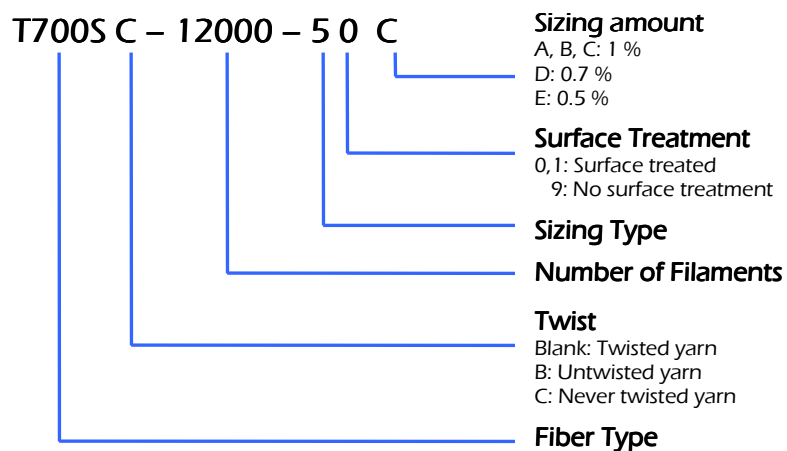


HIGH-PERFORMANCE CARBON FIBER  
**TORAYCA**

**MARKING OF TORAYCA FIBERS**

THE FOLLOWING CODE SYSTEM IS APPLIED TO DESIGNATE THE STANDARD YARN PRODUCTS:



**1) FIBER TYPE**

**T700SC – 12000 – 50C**

Currently, TORAYCA fibers are separated into two main series: **T** and **M**.

The **T** series stands for tensile strength, while the **M** series indicates modulus.

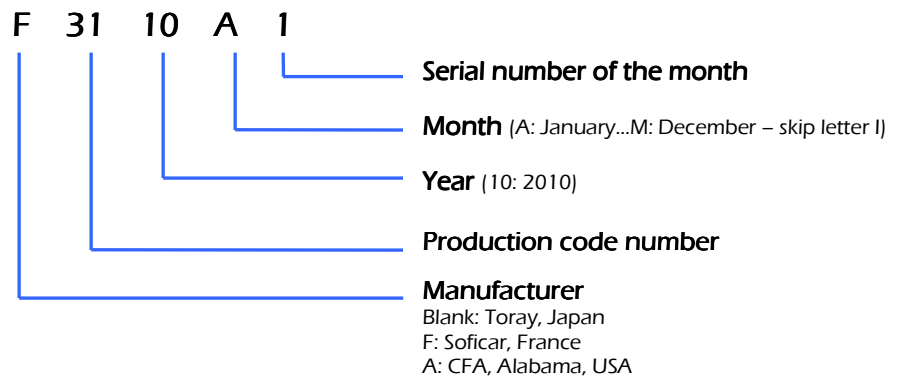
Included in the **M** series are MJ type fibers, which have enhanced tensile and compressive strength properties over older **M** series fibers.

Originally, in the **T** series, the three or four digit number designated the approximate tensile strength in either kgf/mm<sup>2</sup> or ksi. For example, T700S has a tensile strength of 711 ksi.

In the case of **M** series fibers, the two digit number designates the approximate modulus in SI units. For example, M55J has a tensile modulus of 55 x 10<sup>3</sup> kgf/mm<sup>2</sup>.

The specific properties of each type of fiber can be found on data sheets.

**2) LOT NUMBER**



**3) TWIST** **T700SC – 12000 – 50C**

Originally, TORAYCA fibers were produced as a twisted fiber. Because of other application requirements, TORAYCA is also produced as untwisted and never twisted fiber. Twist of the fiber is designated as follows:

(No letter)	Twisted Fiber
B	Untwisted Fiber (made from a twisted fiber through an untwisting process)
C	Never Twisted Fiber

Please see the individual data sheets for fiber twist of each product.

**4) TOW SIZE** **T700SC – 12000 – 50C**

Tow sizes, or number of carbon fiber filaments per tow, vary from 1000 to 48000 filaments per tow. TORAYCA fibers are available in specific tow sized for each product. Consult the data sheets for available tow sizes.

**5) SIZING** **T700SC – 12000 – 50C**

TORAYCA fibers are treated with various sizing agents to enhance the handleability and bonding characteristics with various resin systems. Below are the sizing types developed for TORAYCA fibers. Not all sizing are available with every fiber. Please see the data sheets for available sizings of a particular fiber.

Sizing Type	Resin System Compatibility
1	Epoxy
3	Epoxy
4	Epoxy, phenolic, BMI
5	General purpose: Epoxy, phenolic, polyester, vinyl ester
6	Epoxy
F	Designed for vinyl ester, compatible with epoxy
9	No sizing fiber designation

**6) SURFACE TREATMENT** **T700SC – 12000 – 50C**

TORAYCA fibers are surface treated to enhance the adhesion properties with resin systems in a process known as oxidation. Oxygen atoms are chemically added to the surface of the fiber to increase the bonding characteristics.

The surface treatment is designated as follows:

0,1	Surface treated
9	No surface treatment

**7) SIZING AMOUNT** **T700SC – 12000 – 50C**

To control the handleability and adhesion properties, various amounts of sizing are applied to TORAYCA fibers. The sizing amount is designated as a letter (A to E) for a specific fiber. Because of various applications, the letter may correspond to different sizing amounts from fiber type to fiber type. See the fiber data sheet for specific sizing amounts.

**TORAY CARBON FIBERS EUROPE**

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