

Torayca® yarn

Toray's Torayca® yarn is a high-performance carbon fiber made of polyacrylonitrile (PAN). After releasing its Torayca® T300 in 1971, Toray has been manufacturing high-performance carbon fiber longer than any other company in the world, providing a number of high-quality, stable products.

With its excellent characteristics, Torayca® composite materials are contribution significantly to wide-ranging fields including aerospace, industrial, sport/leisure, etc.



1. Physical property table of Torayca® yarn

Product No.	Filaments	Tensile strength (MPa)	Tensile strength (kgf/mm ²)	Modulus of elongation (GPa)	Modulus of elongation (kgf/mm ²)	Elongation (%)	Fineness tex (g/1000m)	Density (g/cm ³)	
T300	T300-1000	1000	3530	360	230	23500	1.5	66	1.76
	T300-3000	3000	3530	360	230	23500	1.5	198	1.76
	T300-6000	6000	3530	360	230	23500	1.5	396	1.76
T300B	T300B-1000	1000	3530	360	230	23500	1.5	66	1.76
	T300B-3000	3000	3530	360	230	23500	1.5	198	1.76
	T300B-6000	6000	3530	360	230	23500	1.5	396	1.76
T400HB	T400HB-3000	3000	4410	450	250	25500	1.8	198	1.8
	T400HB-6000	6000	4410	450	250	25500	1.8	396	1.8
T700SC	T700SC-12000	12000	4900	500	230	23500	2.1	800	1.8
	T700SC-24000	24000	4900	500	230	23500	2.1	1650	1.8
T800SC	T800SC-24000	24000	5880	600	294	30000	2	1030	1.8
T800HB	T800HB-6000	6000	5490	560	294	30000	1.9	223	1.81
	T800HB-12000	12000	5490	560	294	30000	1.9	445	1.81
T830HB	T830HB-6000	6000	5340	545	294	30000	1.8	223	1.81
T1000GB	T1000GB-12000	12000	6370	650	294	30000	2.2	485	1.8
T1100GC	T1100GC-12000	12000	7000	715	324	33000	2	505	1.79
	T1100GC-24000	24000	7000	715	324	33000	2	1010	1.79
M35JB	M35JB-6000	6000	4510	460	343	35000	1.3	225	1.75
	M35JB-12000	12000	4700	480	343	35000	1.4	450	1.75
M40JB	M40JB-6000	6000	4400	450	377	38500	1.2	225	1.77
	M40JB-12000	12000	4400	450	377	38500	1.2	450	1.77
M46JB	M46JB-6000	6000	4200	430	436	44500	1	223	1.84
	M46JB-12000	12000	4020	410	436	44500	0.9	445	1.84
M50JB	M50JB-6000	6000	4120	420	475	48500	0.9	216	1.88
M55J	M55J-6000	6000	4020	410	540	55000	0.8	218	1.91
M55JB	M55JB-6000	6000	4020	410	540	55000	0.8	218	1.91
	M55JB-12000	12000	4020	410	540	55000	0.8	436	1.91
M60JB	M60JB-3000	3000	3820	390	588	60000	0.7	103	1.93
	M60JB-6000	6000	3820	390	588	60000	0.7	206	1.93
M30SC	M30SC-18000	18000	5490	560	294	30000	1.9	760	1.73
Z600 (Torayca® GT)	Z600-24000	24000	4120	420	235	24000	1.8	1850	1.81

2. Product specifications of Torayca® yarn

Yarn type	Fiber weight(kg)	Packaging type	Packaging size (mm)					Packing unit (Net weight: kg)	
			a	b	c	d	e		
T300	1K A/B	1.0	II	76	82	192	132	156	1.0×12=12
	3K A/B	2.0	II	76	82	192	157	156	2.0×12=24
	6K A/B	2.0	II	76	82	192	157	156	2.0×12=24
T400H	3K A/B	2.0	II	76	82	192	157	156	2.0×12=24
	6K A/B	2.0	II	76	82	192	157	156	2.0×12=24
T700S	12K C	6.0	III	76.5	82.5	280	200	252	6.0×4=24
	24K C	6.0	III	76.5	82.5	280	200	252	6.0×4=24
T800S	24K C	7.8	III	76.5	82.5	280	170	252	7.8×4=31.2
T800H	6K B	2.0	II	76	82	192	157	156	2.0×12=24
	12K B	4.0	III	76.5	82.5	280	176	252	4.0×6=24
T830H	6K B	2.0	II	76	82	192	157	156	2.0×12=24
T1000G	12K B	2.0	III	76.5	82.5	280	140	252	2.0×12=24
T1100G	12K C	2.0	III	76.5	82.5	280	170	252	2.0×12=24
	24K C	4.0	III	76.5	82.5	280	170	252	4.0×6=24
M35J									
	12K B	2.0	II	76	82	192	157	156	2.0×12=24
M40J	6K B	1.0	II	76	82	192	126	156	1.0×12=12
	12K B	2.0	II	76	82	192	157	156	2.0×12=24
M46J	6K B	1.0	II	76	82	192	126	156	1.0×12=12
	12K B	2.0	II	76	82	192	157	156	2.0×12=24
M50J	6K B	1.0	II	76	82	192	126	156	1.0×12=12
M55J	6K B	0.5	II	76	82	192	107	156	0.5×24=12
M60J	3K B	0.2	II	76	82	192	94	156	0.2×20=4.0
	6K B	0.4	II	76	82	192	103	156	0.4×20=8.0
M30S	18K C	4.0	III	76.5	82.5	280	170	252	4.0×6=24

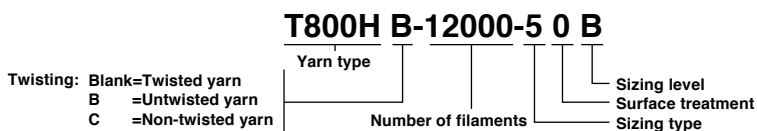
● Display method <Cautions>

The above data is displayed on the Torayca® label.

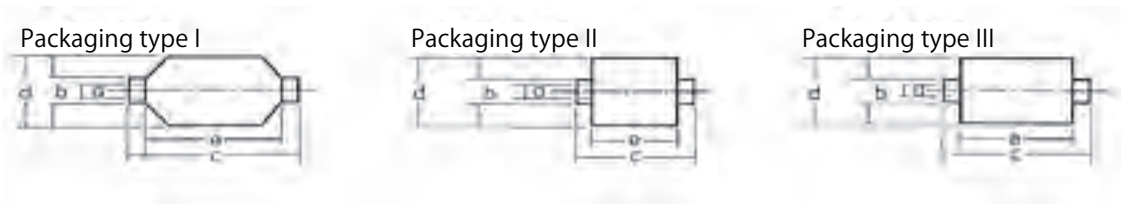
<Cautions>

On Toray's products, the number of filaments is some - times indicated using "K," which is an abbreviated symbol meaning 1000. Also, twisted yarns and untwisted yarns are denoted by the symbols "A" and "B," respectively.

To be specific, Torayca® 3000 twisted yarn is called "3K A," while Torayca® 6000 untwisted yarn is called "6K B."



● Packaging standards



3. Handling precautions for carbon fiber

- Carbon fiber is conductive. Implement dust-proof measures to prevent electrical equipment from shorting, malfunctioning, etc., due to fibers scattering and flying around in the work area.
- No cases of health problems due to carbon fiber have been reported, but short fibers may attach to the skin or viscous membrane to cause itchiness or inflammation. When handling carbon fiber, wear a mask, gloves and other protective equipment to prevent carbon fiber from being inhaled or attaching to the skin.
- Incinerating waste material of carbon fiber or carbon fiber composite material may cause fibers to scatter and fly around and cause electrical failures. It is appropriate to bury such material as industrial waste.

Cautions

1. This product documentation does not guarantee the result or product safety/compliance achieved by applying the information provided herein. When using the product, confirm its safety/compliance according to the purpose of use.
 2. Our carbon fiber Torayca® products or technologies relating to the design, manufacturing or use thereof may be classified as the goods specified in 1 to 15 of Appended Table 1 of the Export Trade Control Order, or as the technologies specified in 1 to 15 of Appended Table 1 of the Foreign Exchange Order, or as other goods/technologies that may be specified by the government as being subject to export control for national security reasons.

When exporting or providing to a non-resident any such Torayca® product or any such technology relating to the design, manufacture or use of Torayca® product, an export permission or service transaction permission must be obtained from the Minister of Economy, Trade and Industry or other necessary procedure must be taken according to the Foreign Exchange and Foreign Trade Act or other relevant law, notice, etc.
- Torayca® is a registered trademark of Toray's high-performance carbon fiber.