

Fiber family & tensile properties	Sizing properties	Number of filaments	Nominal linear density (without sizing)	Additional information	Tensile strength [MPa]	Tensile modulus [GPa]	Elongation at break [%]	Filament diameter [µm]	Density [g/cm <sup>3</sup> ]	Sizing	Size level [%]
HTA40	E15	1K	67tex	15S	4100	240	1.7	7.0	1.77	EP	2.5
HTA40	E13	3K	200tex		4100	240	1.7	7.0	1.77	EP	1.3
HTA40	E13	3K	200tex	15Z	4100	240	1.7	7.0	1.77	EP	1.3
HTA40	E13	6K	400tex		4100	240	1.7	7.0	1.77	EP	1.3
HTA40	E13	6K	400tex	10Z	4100	240	1.7	7.0	1.77	EP	1.3
HTS40	E13	3K	200tex		4400	240	1.8	7.0	1.77	EP	1.3
HTS40	E13	6K	400tex		4400	240	1.8	7.0	1.77	EP	1.3
HTS40	F13	12K	800tex		4400	240	1.8	7.0	1.77	PU	1.0
HTS40	F13	12K	800tex	10Z	4400	240	1.8	7.0	1.77	PU	1.0
HTS40	F13	24K	1600tex		4400	240	1.8	7.0	1.77	PU	1.0
HTS40	F13	24K	1600tex	5Z	4400	240	1.8	7.0	1.77	PU	1.0
HTS45	E23	3K	200tex		4500	245	1.8	7.0	1.76	EP	1.2
HTS45	E23	3K	200tex	15Z	4500	245	1.8	7.0	1.76	EP	1.2
HTS45	E23	12K	800tex		4500	240	1.9	7.0	1.77	EP	1.3
HTS45	E23	12K	800tex	10Z	4500	240	1.9	7.0	1.77	EP	1.3
STS40	E23	24K	1600tex		4300	250	1.7	7.0	1.78	EP	1.3
STS40	F11	24K	1600tex		4300	240	1.8	7.0	1.78	PU	0.17
STS40	F13	24K	1600tex		4300	240	1.8	7.0	1.78	PU	1.0
STS40	F13	24K	1600tex	S	4300	240	1.8	7.0	1.78	PU	1.0
STS40	F13	48K	3200tex		4300	250	1.7	7.0	1.77	PU	1.0
STS40	E23	48K	3200tex		4300	250	1.7	7.0	1.78	EP	1.0
UTS50	F13	12K	800tex		5100	245	2.1	7.0	1.78	PU	1.0
UTS50	F22	12K	800tex	S	5100	245	2.1	7.0	1.78	PU	0.8
UTS50	F24	24K	1600tex	DCP	5100	245	2.1	7.0	1.78	PU	2.0
UTS50	F24	24K	1600tex	D	5100	245	2.1	7.0	1.78	PU	2.0
ITS50	F23	24K	1600tex	D	5100	265	1.9	7.0	1.80	PU	1.0
ITS55	E23	24K	1600tex		5100	280	1.8	7.0	1.75	EP	1.2
IMS60	E13	24K	830tex		5800	290	2.0	5.0	1.79	EP	1.3
IMS65	E23	24K	830tex		6000	290	2.1	5.0	1.78	EP	1.3
IMS6L	E23	24K	830tex		5900	280	2.1	5.0	1.80	EP	1.3
UMS40	F23	24K	800tex	S	4700	390	1.2	4.9	1.79	PU	1.0
UMS45	F22	12K	385tex		4600	425	1.1	4.7	1.83	PU	0.8
HTS40	A23	12K	1420tex	MC	2900	230	1.3	7.5*	2.70	PU	1.3

\* incl. 0.25 µm Nickel

- Please contact our sales team any time, for choosing the right type. All data shown are typical values representative of the material and cannot be guaranteed.
- For design purposes please request a fiber specification.
- The export or transfer of carbon fibers can be subject to authorization, depending on end-use and final destination.

<b>Cylindrical bobbins</b>		<b>Japan</b>		<b>Germany</b>	<b>USA</b>
Tube length	[mm]	182	280	290	280
Tube internal diameter	[mm]	77	77	77	77
Tube weight	[g]	110	160	190	175
Stroke	[mm]	152	254	254	254

<b>Net weight</b>	[kg]	<b>0.5</b>	<b>1.0</b>	<b>2.0</b>	<b>4.0</b>	<b>6.0</b>	<b>8.0</b>	<b>10.0</b>
External diameter	[mm]	105	120	145	180	205	225	245

<b>Bobbins per packaging</b>		[kg]	<b>0.5</b>	<b>1.0</b>	<b>2.0</b>	<b>4.0</b>	<b>6.0</b>	<b>8.0</b>	<b>10.0</b>
Japan	carton	20/24	20	12	6	6	-	4	
Germany	carton	-	16	11/12	6	6	3	-	
USA	carton	-	-	12	8	5	4	-	

Japan	large packaging	-	-	-	75	60	54
Germany	large packaging	-	150	90	69	60	-
USA	large packaging	-	-	-	69	60	-

**Packaging (L x W x H)**

Japan	carton	[mm]	640	x	510	x	300
	carton (4 kg)	[mm]	550	x	370	x	300
	carton (6 kg - 10 kg)	[mm]	570	x	570	x	300
Germany	carton	[mm]	600	x	420	x	320
USA	carton	[mm]	610	x	510	x	300

Japan	large packaging incl. palett	[mm]	1200	x	1100	x	1050
Germany	large packaging incl. palett	[mm]	1000	x	1200	x	910
USA	large packaging incl. palett	[mm]	1020	x	1220	x	1150