

Product overview

Tenax™ and Tenax Next™ filament yarn

| | Fiber family | Sizing properties | Number of filaments | Yield (without sizing) | Additional information | Tensile strength | | Tensile modulus internal test method | | Tensile modulus ASTM / SACMA | | Elongation at break | Sizing | Size level | Density | | Filament diameter | |
|--------|--------------|-------------------|---------------------|------------------------|------------------------|------------------|-------|--------------------------------------|-------|------------------------------|-------|---------------------|--------|------------|---------|---------|-------------------|----------|
| | | | | | | [MPa] | [ksi] | [GPa] | [Msi] | [GPa] | [Msi] | | | | [%] | [g/cm³] | | [lb/in³] |
| HTA | HTA40 | E15 | 1K | 67tex | 15S | 4100 | 590 | 240 | 35 | 230 | 33 | 1.7 | EP | 2.5 | 1.77 | 0.064 | 7.0 | |
| | HTA40 | E13 | 3K | 200tex | | | | | | | | | EP | 1.3 | | | | |
| | HTA40 | E13 | 3K | 200tex | 15Z | | | | | | | | EP | 1.3 | | | | |
| | HTA40 | E13 | 6K | 400tex | | | | | | | | | EP | 1.3 | | | | |
| | HTA40 | E13 | 6K | 400tex | 10Z | | | | | | | | EP | 1.3 | | | | |
| | HTA40 | E13 | 12K | 800tex | | | | | | | | | EP | 1.3 | | | | |
| HTS | HTS40 | E13 | 3K | 200tex | | 4400 | 640 | 240 | 35 | 230 | 33 | 1.8 | EP | 1.3 | 1.77 | 0.064 | 7.0 | |
| | HTS40 | E13 | 6K | 400tex | | | | | | | | | EP | 1.3 | | | | |
| | HTS40 | F13 | 12K | 800tex | | | | | | | | | PU | 1.0 | | | | |
| | HTS40 | F13 | 12K | 800tex | 10Z | | | | | | | | PU | 1.0 | | | | |
| | HTS40 | F13 | 24K | 1600tex | | PU | 1.0 | | | | | | | | | | | |
| | HTS45 | E23 | 3K | 200tex | | 4500 | 650 | 245 | 36 | 240 | 35 | 1.8 | EP | 1.2 | 1.76 | 0.064 | 7.0 | |
| | HTS45 | E23 | 3K | 200tex | 15Z | | | | | | | | EP | 1.2 | | | | |
| | HTS45 | E23 | 12K | 800tex | | 4500 | 650 | 240 | 35 | 235 | 34 | 1.9 | EP | 1.3 | 1.77 | 0.064 | 7.0 | |
| | HTS45 | E23 | 12K | 800tex | 10Z | | | | | | | | EP | 1.3 | | | | |
| | HTS45 | E23 | 24K | 1600tex | | 4800 | 700 | 240 | 35 | 235 | 34 | 2.0 | EP | 1.2 | 1.79 | 0.065 | 7.0 | |
| HTS45* | E23 | 24K | 1600tex | | EP | | | | | | | | 1.2 | | | | | |
| STS | STS40 | E23 | 24K | 1600tex | | 4300 | 620 | 250 | 36 | 245 | 36 | 1.7 | EP | 1.3 | 1.78 | 0.064 | 7.0 | |
| | STS40 | F11 | 24K | 1600tex | | | | | | | | | 240 | 35 | | | | 235 |
| | STS40 | F13 | 24K | 1600tex | | | | 240 | 35 | 235 | 34 | 1.8 | PU | 1.0 | | | | |
| | STS40 | F13 | 24K | 1600tex | S | | | | | | | | PU | 1.0 | | | | |
| | STS40 | F13 | 48K | 3200tex | | | | 250 | 36 | 245 | 36 | 1.7 | PU | 1.0 | | | | 1.77 |
| | STS40 | E23 | 48K | 3200tex | | | | | | | | | EP | 1.0 | | | | 1.78 |
| UTS | UTS50 | C31 | 24K | 1600tex | | 5100 | 740 | 245 | 36 | 235 | 34 | 2.1 | PA | 0.4 | 1.81 | 0.065 | 7.0 | |
| | UTS50 | F13 | 12K | 800tex | | | | | | | | | PU | 1.0 | | | | |
| | UTS50 | F22 | 12K | 800tex | S | | | | | | | | PU | 0.9 | | | | |
| | UTS50 | F24 | 24K | 1600tex | D | | | | | | | | PU | 2.0 | | | | 1.81 |
| ITS | ITS50 | F23 | 24K | 1600tex | D | 5100 | 740 | 265 | 38 | 255 | 37 | 1.9 | PU | 1.0 | 1.80 | 0.065 | 7.0 | |
| | ITS55 | E23 | 24K | 1600tex | | | | 280 | 41 | 270 | 39 | 1.8 | EP | 1.2 | | | | 1.75 |
| IMS | IMS60 | E13 | 24K | 830tex | | 5800 | 840 | 290 | 42 | 280 | 41 | 2.0 | EP | 1.3 | 1.79 | 0.065 | 5.0 | |
| | IMS65 | E23 | 24K | 830tex | | 6000 | 870 | | | | | | 2.1 | EP | | | | 1.3 |
| | IMS65 | E23 | 36K | 1630tex | | 5800 | 840 | 280 | 41 | 270 | 39 | 2.1 | EP | 1.3 | 1.80 | 0.065 | | |
| | IMS65 | E23 | 36K | 1630tex | S | | | | | | | | EP | 1.3 | | | | |
| | IMS6L | E23 | 24K | 830tex | | 5900 | 855 | 280 | 41 | 270 | 39 | 2.1 | EP | 1.3 | 1.80 | 0.065 | | 5.0 |
| UMS | UMS40 | F23 | 24K | 800tex | S | 4700 | 680 | 390 | 57 | 375 | 54 | 1.2 | PU | 1.0 | 1.79 | 0.065 | 4.9 | |
| | UMS45 | F22 | 12K | 385tex | | 4600 | 670 | 425 | 62 | 415 | 60 | 1.1 | PU | 0.9 | 1.83 | 0.066 | 4.7 | |

* Tenax Next™

Abbreviations

xxS S direction xx turns per meter
xxZ Z direction xx turns per meter

D fixed wide band
S soft wide band

Reinforcing excellence

Product overview

Tenax™ and Tenax Next™ filament yarn

Tube properties

| | | Japan | | Germany | USA |
|------------------------|------|-------|-----|---------|-----|
| 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 |

Bobbin properties

| | [kg] | 0.5 | 1.0 | 2.0 | 4.0 | 6.0 | 8.0 | 10.0 |
|--------------------------|------|-----|-----|-----|-----|-----|-----|------|
| Net weight | [kg] | 0.5 | 1.0 | 2.0 | 4.0 | 6.0 | 8.0 | 10.0 |
| External bobbin diameter | [mm] | 105 | 120 | 145 | 180 | 205 | 225 | 245 |

Bobbins per packaging

| | [kg] | 0.5 | 1.0 | 2.0 | 4.0 | 6.0 | 8.0 | 10.0 |
|------------------------|---------|-------|-----|-------|-----|-----|-----|------|
| Carton | Japan | 20/24 | 20 | 12 | 6 | 6 | - | 4 |
| | Germany | - | 16 | 11/12 | 6 | 6 | 3 | - |
| | USA | - | - | 12 | 8 | 5 | 4 | - |
| Large packaging | Japan | - | - | - | - | 75 | 60 | 54 |
| | Germany | - | - | 150 | 90 | 69 | 60 | - |
| | USA | - | - | - | - | 69 | 60 | - |

Packaging (L x W x H)

| | | | | |
|-------------------------------------|---------|----------------|------|--------------------|
| Carton | Japan | | [mm] | 640 x 510 x 300 |
| | | (4 kg) | [mm] | 550 x 370 x 300 |
| | | (6 kg - 10 kg) | [mm] | 570 x 570 x 320 |
| | Germany | | [mm] | 600 x 420 x 320 |
| | USA | | [mm] | 610 x 510 x 300 |
| Large packaging incl. palett | Japan | | [mm] | 1200 x 1100 x 1050 |
| | Germany | | [mm] | 1000 x 1200 x 910 |
| | USA | | [mm] | 1020 x 1220 x 1150 |

Notes

- Please contact our sales team for choosing the right type. All data shown are typical values representative of the material and cannot be guaranteed. Specialties on request.
- 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.