

# Drawn Fiber

ECTFE, ETFE, FEP, Nylons, PEEK, PFA, and PVDF

## Overview-

Drawn fiber is an improved-performance monofilament that has been stretched, pulled, or drawn down during the manufacturing process. The drawing process results in a thinner fiber with enhanced mechanical properties.

Zeus drawn fibers provide the performance and versatility to fit almost any application. As a braided sleeve or expandable over-braid, these products are especially suited to industries such as automotive and aerospace. Placed over existing wire assemblies or woven onto hoses, these products help protect against chafing and heat contact as well as provide strengthening reinforcement.

The chemical resistance of many of our drawn fiber resins also make these products well-suited for filtration applications. With our capability to produce small fiber sizes, these products can be woven into a fine mesh for applications such as mist eliminators, liquid phase separation filters, scrubbers, and droplet control.

In the medical device industry, drawn fiber excels in a diverse range of applications where high strength and versatility are required, such as PEEK drawn fiber used as braid reinforcement for catheters, to Nylon drawn fiber used as tethering aids for stents.



*Braided into a flexible sleeving, PEEK drawn fiber helps protect wires and cable from abrasion and chafing.*

## APPLICATIONS

- Wire and cable management
- Catheter braiding
- Medical tether
- Woven chemical filter

## CAPABILITIES AND SIZING

- Diameters from 0.002" - 0.040" (0.051 mm - 1.016 mm)
- Tolerances as low as  $\pm 0.0005$ " ( $\pm 0.0127$  mm)

## KEY PROPERTIES

- Resin-dependent temperatures up to 500 °F (260 °C)
- Chemical resistance
- Strength varies depending on resin



TENSILE STRENGTH



CHEMICAL RESISTANCE



ABRASION RESISTANCE



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Typical drawn fiber capabilities are listed below. This table is meant to serve as a general guideline only. Users should evaluate the material to determine suitability for their own particular application. Supplied in natural color unless otherwise specified. Custom Pantone® colors or Zeus standard colors available upon request. Lot-to-lot testing is also available upon request.

DRAWN FIBER - TYPICAL SIZE RANGES			
TYPE	OD RANGE	OD TOLERANCE	LUBRICITY
ECTFE	0.008" - 0.035" (0.203 mm - 0.889 mm)	± 0.0015" - 0.0035" (± 0.0381 mm - 0.0889 mm)	★★★★☆☆
ETFE	0.008" - 0.040" (0.203 mm - 1.016 mm)	± 0.0015" - 0.0035" (± 0.0381 mm - 0.0889 mm)	★★★★☆☆
FEP	0.004" - 0.040" (0.102 mm - 1.016 mm)	± 0.001" - 0.0035" (± 0.025 mm - 0.0889 mm)	★★★☆☆☆
Nylons	0.002" - 0.040" (0.051 mm - 1.016 mm)	± 0.0005" - 0.0035" (± 0.0127 mm - 0.0889 mm)	★★★★☆☆
PEEK	0.001" - 0.040" (0.025 mm - 1.016 mm)	± 0.0005" - 0.0035" (± 0.0127 mm - 0.0889 mm)	★★★★★★
PFA	0.002" - 0.040" (0.051 mm - 1.016 mm)	± 0.0005" - 0.0035" (± 0.0127 mm - 0.0889 mm)	★★★★☆☆
PVDF	0.002" - 0.040" (0.051 mm - 1.016 mm)	± 0.0005" - 0.0035" (± 0.0127 mm - 0.0889 mm)	★★★★★★

The table below shows the typical performance of PEEK drawn fiber in three select diameters.

PEEK FIBER SPECIFICATIONS			
DIAMETER	0.010" (0.254 mm)	0.011" (0.279 mm)	0.016" (0.406 mm)
OD TOLERANCE	± 0.0015" (± 0.0381 mm)	± 0.0015" (± 0.0381 mm)	± 0.0015" (± 0.0381 mm)
MIN. TENSILE STRENGTH	4 lbs	5.5 lbs	11 lbs
MIN. ELONGATION @ BREAK	18%	18%	20%
MAX. ELONGATION @ BREAK	30%	30%	35%
MIN. SHRINKAGE	3%	3%	2%
MAX. SHRINKAGE	5%	5%	6%

