Biomaterials

Aeos™ ePTFE Membranes and Ribbons

Expanded PTFE Membranes and Ribbons

Overview-

Zeus Aeos™ ePTFE membranes and ribbons are formed by expanding PTFE under controlled conditions to create products with a microporous structure of solid nodes interconnected by fibrils. Advanced extrusion and processing techniques enable Zeus to create customized microporous membranes and ribbons that excel where porosity, flexibility, and strength are essential.

For applications such as stent encapsulation, Zeus is uniquely able to produce ultra-thin biaxially stretched membranes. Thicker, uniaxially stretched calendared ribbons are also available for use in medical and dental implants or cosmetic surgeries that require thicker materials capable of being formed or cut to shape.

Depending on the application, Aeos™ ePTFE membranes and ribbons can be sintered to ensure stable properties. Alternatively, products can be left unsintered for further processing. In these applications, our engineers can work with you to identify an optimized lamination solution using Zeus components.

Zeus Aeos™ ePTFE microporous membranes and ribbons are engineered to your exact specifications.

APPLICATIONS

- Stent coverings
- Implants

AVAILABLE PRODUCTS

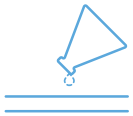
- Ultra-thin membranes
- Thicker calendared ribbons

CAPABILITIES

- Sintered or unsintered options
- Biaxially or uniaxially stretched

KEY PROPERTIES

- Microporous
- Highly customizable
- Biocompatible
- Chemically inert
- Lubricious
- Soft and flexible



CHEMICALLY INERT

BIOCOMPATIBILE

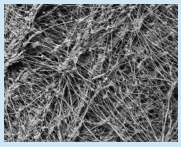
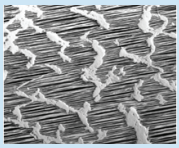
FLEXIBLE

ZEUS®

Americas: +1 803.268.9500 | **Europe:** +353 (0)74 9109700 | **Asia/Pacific:** +(86)20-38254906 | *zeusinc.com*

Aeos™ ePTFE Membranes and Ribbons

All Aeos™ ePTFE membrane and ribbon products are produced based on customer specifications and the charts below are a general capability guide.

	Aeos™ ePTFE Membrane	Aeos™ ePTFE Ribbon
AVAILABILITY	Customizable	Customizable
SIZE CLASSIFICATION	Ultra-Thin	Thicker
ORIENTATION	Biaxial	Uniaxial/Calendared
SINTERED/UNSINTERED	Both	Both
DENSITY VALUE	n/a	Low to High 0.22 g/cm³ – 1.52 g/cm³
INTERNODAL DISTANCE (IND)	n/a*	Low to High 10 µm – 80 µm
POROSITY VALUE (%)	Low to High	Low to High
PORE SIZE	Tight Pores 0.2 µm – 1.0 µm	Larger Pores 1.0 µm – 10 µm
MICROSTRUCTURE – SEM IMAGE COMPARISON	More Tortuous Path for Pores 5000x 	Larger More Uniform Unidirectional Pores 1000x 
THICKNESS	0.00015" – 0.00400" (0.00381 mm – 0.10160 mm) *Reference Only*	0.002" – 0.020" (0.051 mm – 0.508 mm)
THICKNESS TOLERANCE	n/a	± 0.0005" (± 0.0127 mm)
WIDTH	*See 'Roll Width' Below*	0.05" – 4.00" (1.27 mm – 101.6 mm)
WIDTH TOLERANCE	n/a	± 0.020" (± 0.508 mm)
BASIS WEIGHT	1.50 g/m² – 40.0 g/m²	n/a
ROLL WIDTH	6" – 24" (152.4 mm - 609.6 mm)	n/a
APPLICATIONS	Covered Stents, AAA Grafts, Scaffolding Membrane, Medical Filtration, Wound Care	Dental Implants, Vascular Grafts

**Tighter Pore Sizes Make IND Measurement Hard to Replicate*

Additional Specification Options	
POROSITY RANGE	DENSITY RANGE
Low 30 – 50%	High 1.09 – 1.52 g/cm³ ± 0.15
Medium 50 – 70%	Medium 0.65 – 1.09 g/cm³ ± 0.15
High 70 – 90%	Low 0.22 – 0.65 g/cm³ ± 0.15

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