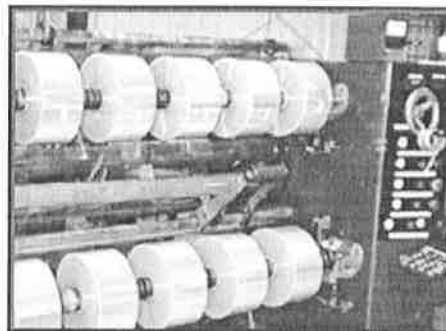


Questar™ Polyester Film Specifications

Questar™ polyester film (polyethylene terephthalate) retains good physical properties over a wide temperature range (-70 C to 150 C). It also is used at temperatures from -250 C to 200 C when the physical requirements are not as demanding.



Get the Details

- View Questar™ [physical and thermal properties](#) and [electrical properties](#) below.
- Check the [yields](#), [roll lengths](#), or [roll configurations](#) for Questar™ Polyester Film below.
- Download the [Material Safety Data Sheet \(PDF\)](#)
- Calculate your needs with help from Filmquest's [Tools](#).

Typical Physical and Thermal Properties

| Property | Typical Value | Unit | Test Method |
|---|---|-----------------------------------|-----------------------------------|
| Gauge & Type End Use | CI-100/92 Gauge Industrial Specialties | ----- | ----- |
| Ultimate Tensile Strength, MD | 28,000 | psi | ASTM D 882 |
| TD | 34,000 | psi | ASTM D 882 |
| Strength at 5% Elongation MD (F-5), TD | 15,000 | psi | ASTM D 882 |
| | 14,000 | psi | ASTM D 882 |
| Modulus, MD | 710,000 | psi | ASTM D 882 |
| TD | 740,000 | psi | ASTM D 882 |
| Elongation, MD | 110 | % | ASTM D 882 |
| TD | 90 | % | ASTM D 882 |
| Surface Roughness | 38 | nm | Optical Profilometer |
| Density | 1.390 | g/cc | ASTM D 1505 |
| Viscosity | 0.56 | dL/g | ASTM D 4603 |
| Melt Point | 254 | C | Differential Scanning Calorimeter |
| Dimensional Stability | | | |
| at 105 C MD | 0.6 | % | Lab |
| TD | 0.3 | % | Lab |
| at 150 C MD | 1.8 | % | Lab |
| TD | 1.0 | % | Lab |
| Specific Heat | 0.28 | cal/g/ C | ----- |
| Coefficients of Thermal Expansion | 1.7 x 10 ⁻⁵ | in/in/ C | ASTM D 696 |
| Thermal Conductivity (Questar 1000 Gauge) | 3.7 x 10 ⁻⁴ | cal.cm cm ² /sec/ C | 30 C-50 C 25 C-75 C |

| | | | |
|-------------------|----------|----------------------------|-------|
| UL 94 Flame Class | 94 VTM-2 | Slow to self-extinguishing | ----- |
|-------------------|----------|----------------------------|-------|

The information contained here in is given by Filmquest free of charge. It is upon technical data that Filmquest believes to be reliable and is intended for use by persons having knowledge of this technical area at their own discretion and risk. Filmquest assumes no responsibility for results obtained or damages incurred from the use of this information either in whole or in part by a buyer of **Questar™** polyester film.

[Back to top](#)

Typical Electrical Properties

| Property | Typical Value | Unit | Test Method |
|--|------------------|------------|---------------|
| Dielectric Strength AC, 25 C, 92 gauge | 7,000 | volts/mil | ASTM D149-64 |
| Dielectric Constant 25 C, 1 kHz | 3.2 | ----- | ASTM D150-81 |
| Dissipation Factor 25 C, 1 kHz | 0.005 | ----- | ASTM D150-65 |
| Volume Resistivity 25 C, 1 kHz | 10 ¹⁸ | ohm-cm | ASTM D250-78 |
| Surface Resistivity 23 C, 30% Relative Humidity | 10 ¹⁶ | ohm/square | ASTM D257-78 |
| Corona Threshold Voltage, 92 gauge | 425 | V-AC | ASTM D2275-80 |

[Back to top](#)

Yields for Questar™ Polyester Film

| Gauge | ft 2/lb | in. 2/lb | lb/ft 2 | lb/thousand in. 2 |
|------------|--------------|---------------|----------------|-------------------|
| 30 | 437.5 | 63,000 | 0.00228 | 0.015 |
| 48 | 287.1 | 41,333 | 0.00348 | 0.0242 |
| 57 | 241.8 | 34,807 | 0.00414 | 0.0287 |
| 75 | 183.7 | 26,453 | 0.00544 | 0.0378 |
| 92 | 149.8 | 21,565 | 0.00668 | 0.0464 |
| 142 | 97.0 | 13,972 | 0.01030 | 0.0716 |
| 200 | 68.9 | 9,920 | 0.01451 | 0.1008 |
| 265 | 52.0 | 7,487 | 0.01923 | 0.1336 |
| 275 | 50.1 | 7,215 | 0.01966 | 0.1386 |
| 300 | 45.9 | 6,613 | 0.02177 | 0.1512 |
| 375 | 36.7 | 5,291 | 0.02721 | 0.1890 |
| 390 | 35.3 | 5,087 | 0.02830 | 0.1966 |
| 400 | 34.5 | 4,960 | 0.02903 | 0.2016 |
| 423 | 32.6 | 4,960 | 0.03070 | 0.2132 |
| 460 | 30.0 | 4,313 | 0.03338 | 0.2319 |
| 470 | 29.3 | 4,221 | 0.03411 | 0.2369 |
| 500 | 27.6 | 3,968 | 0.03628 | 0.2520 |
| 650 | 21.2 | 3,052 | 0.04717 | 0.3276 |
| 692 | 19.9 | 2,867 | 0.05022 | 0.3488 |
| 700 | 19.7 | 2,834 | 0.05080 | 0.3528 |
| 750 | 18.4 | 2,645 | 0.05443 | 0.3780 |
| 800 | 17.2 | 2,480 | 0.05806 | 0.4032 |
| 850 | 16.2 | 2,334 | 0.06168 | 0.4284 |
| 900 | 15.3 | 2,204 | 0.06531 | 0.4536 |

| | | | | |
|-------------|------------|--------------|----------------|---------------|
| 950 | 14.5 | 2,088 | 0.06894 | 0.4788 |
| 1000 | 13.8 | 1,984 | 0.07257 | 0.5040 |
| 1100 | 12.5 | 1,804 | 0.07983 | 0.5544 |
| 1200 | 11.5 | 1,653 | 0.08708 | 0.6048 |
| 1300 | 10.6 | 1,526 | 0.09434 | 0.6552 |
| 1400 | 9.8 | 1,417 | 0.10160 | 0.7056 |
| 1500 | 9.2 | 1,323 | 0.10885 | 0.7650 |

[Back to top](#)

Questar™ Polyester Film Roll Lengths (ft)

| Gauge | Single (1x) | Double (2x) | Quad (4x) | Master ¹ (6x) | Jumbo ² (8x) |
|-------|-------------|-------------|-----------|--------------------------|-------------------------|
| 30 | 15,000 | 31,500 | 63,000 | 90,000 | 120,000 |
| 48 | 10,000 | 20,000 | 41,000 | 60,000 | 80,000 |
| 60 | 8,000 | 16,000 | 33,000 | 48,000 | 65,000 |
| 92 | 5,000 | 10,000 | 21,000 | 30,000 | 40,000 |
| 142 | 3,500 | 7,000 | 14,000 | 21,000 | 25,000 |
| 200 | 2,500 | 5,000 | 10,000 | 15,000 | 20,000 |
| 300 | 1,700 | 3,500 | 7,000 | 10,500 | 14,000 |
| 400 | 1,250 | 2,500 | 5,000 | 7,500 | 10,000 |
| 500 | 1,000 | 2,000 | 4,000 | 6,000 | 8,000 |
| 700 | 750 | 1,500 | 3,000 | 4,500 | 6,000 |
| 750 | 650 | 1,300 | 2,700 | 4,000 | 5,400 |
| 1000 | 500 | 1,000 | 2,000 | 3,000 | 4,000 |
| 1400 | 350 | 700 | 1,400 | 2,100 | 3,000 |

¹ Custom lengths available

² Select availability

Questar™ Polyester Film Roll Configurations

| Length | lbs. per inch of width | 3" Core | 6" Core ³ | 10" Core ³ |
|--------|------------------------|-------------|----------------------|-----------------------|
| Single | 3.1 | 9-1/2" O.D. | 11" O.D. | N/A |
| Double | 6.1 | 13" O.D. | 14" O.D. | N/A |
| Quad | 12.3 | 17" O.D. | 18-1/2" O.D. | 20-1/2" O.D. |
| Master | 18.1 | N/A | 22-1/2" O.D. | 24" O.D. |
| Jumbo | 24.5 | N/A | 25-1/2" O.D. | 27" O.D. |

³ Extended cores available by request

[Back to top](#)

[Home](#) | [Applications](#) | [Specifications](#) | [Tools](#) | [Glossary](#) | [About Us](#) | [Contact Us](#)

Filmquest Group Inc.

Phone: 888-PETFILM or 630-226-9800 Fax: 630-226-9400 Email: sales@petfilm.com

Address: 320 Remington Blvd, Bolingbrook, IL 60440

Copyright ©2014, Filmquest Group Inc.

[Home](#) [Applications](#) [Specifications](#) [Tools](#) [Glossary](#) [About Us](#) [Contact Us](#)

Electrical/Electronics Polyester Film Applications

Questar™ polyester film provides electrical applications with excellent dielectric strength, good handling and UL recognition in all gauges.

| Type | Gauge (s) | Applications | Properties/Benefits |
|------------------------|-----------|--|---|
| DE Series EE Series | 48-1400 | Electrical insulation in slot liners and wedges and phase insulation for hermetic motors/compressor sealed units, fractional horse power motors and industrial laminations | Excellent dielectric strength, thermal stability and cut-through resistance. Low shrinkage. Good moisture resistance and product uniformity. Used in insulation systems that have been given Class B rating by UL®. Delamination resistant. Extremely stiff, mechanically strong. |
| CE Series | 48-500 | Core wrap and insulation for telecommunications and power transmission wire and cable. | Tough and durable. Good dielectrics and handling for core wrap. |
| AE Series BE Series | 300-1000 | Membrane touch switches and spacers | Clear, film surface treated on both sides to provide superior slip and handling qualities. Tough, stable and resistant to chemicals for long service life |
| CE Series | 48-1400 | Electrical insulation, transformers, laminates, bus bars punched components | Chemical inertness, high temperature durability, good dielectrics and handling characteristics for coating, die cutting, embossing and laminating operations. Serves as a barrier for membrane touch switches and flexible circuits. |
| CE Series | 14-92 | Electrical Insulation | Tensilized, excellent moisture chemical resistance. |

[Back to Applications](#)

[Home](#) | [Applications](#) | [Specifications](#) | [Tools](#) | [Glossary](#) | [About Us](#) | [Contact Us](#)

Filmquest Group Inc.

Phone: 888-PETFILM or 630-226-9800 **Fax:** 630-226-9400 **Email:** sales@petfilm.com

Address: 320 Remington Blvd, Bolingbrook, IL 60440

Copyright ©2014, Filmquest Group Inc.