

Material Data Sheet

Item: Mylar* Polyester Film Type EL-21

Description: Mylar* polyester film is a flexible, strong and durable film with an unusual balance of properties making it suitable for many industrial applications. The excellent dielectric strength, moisture resistance and physical toughness make Mylar* a very versatile and functional insulating material.

Application: Type EL-21 films, similar to type MO films, are heavy gauge insulating films designed for general purpose electrical/electronic applications, such as transformers, laminates, bus bars and punched parts.

Typical Properties: Mylar* films offer high dielectric strength, good chemical resistance and exceptional durability in high temperature environments.

Nominal Thickness Micron (Gauge)	Tensile Strength MD/TD ¹ kg/mm ² (kspi)	Elongation MD/TD ¹ (%)
188 (750)	18/20 (26/29)	150/125
225 (900)	20/20 (28/28)	160/150
250 (1,000)	20/20 (28/28)	160/150
350 (1,400)	18/17 (25/24)	200/200

¹MD = Machine Direction, TD = Transverse Direction

Dimensional Stability MD/ TD ¹ (%) Shrinkage	Haze (%)	Density (g/cm ³)	Dielectric Strength (AC) kV (min)
1.5/0.8	40	1.3925	17.5
1.5/1.0	42	1.3920	18.4
1.5/1.0	42	1.3920	19.0
1.3/0.6	47	1.3926	20.0

¹MD = Machine Direction, TD = Transverse Direction

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Slit Rolls:

Standard Roll Size

I.D. cm (in)	O.D. cm (in)
7.6 (3)	33 (13)
7.6 (3)	41 (16)
7.6 (3)	46 (18)

**Approximate Length for
7.6-CM (3-IN) x 33-CM (13-IN) O.D. Roll**

Micron (Gauge)	Nominal Length meters (ft)
188 (750)	420 (1,360)
225 (900)	350 (1,140)
250 (1,000)	310 (1,020)
350 (1,400)	230 (740)

Master Rolls: Master Rolls are much longer lengths, splice-free and available on 25.4 - cm (10 - in) I.D. cores.

**Approximate Length for
Master Rolls**

Micron (Gauge)	Nominal Length meters (ft)
188 (750)	1,770 (5,800)
225 (900)	1,480 (4,850)
250 (1,000)	1,330 (4,350)
350 (1,400)	960 (3,150)

Material Data Sheet

Item: Mylar* Polyester Film Type MO/MO-21

Description: Mylar* polyester film is a flexible, strong and durable film with an unusual balance of properties making it suitable for many industrial applications. Type MO/MO-21 Mylar*, designed specifically for electric motor insulation, is used as phase, wedge and slot liner insulation.

Availability:

Standard Slit Rolls Put-Ups

<u>I.D.</u>	<u>O.D.</u>
3"	13"
3"	16"
3"	18"

Approximate Length for 3" I.D. - 13" O.D. Roll

<u>Gauge</u>	<u>Nominal Length (ft.)</u>
500	2,040
750	1,360
900	1,150
1,000	1,020
1,400	730

Typical Values: 500 750 900 1000 1400

Physical Properties

Tensile Strength - MD					
(psi)	26,000	27,000	27,000	27,000	23,000
(MPa)	179.4	186.3	186.3	186.3	160.7
Modulus - MD					
(psi)	500,000	490,000	480,000	430,000	
410,000					
(GPa)	3.45	3.38	3.31	2.96	2.83
Elongation - MD					
(%)	150	150	160	170	180
Density					
(g/cm ³)	1.392	1.392	1.391	1.391	1.390

All of the information, suggestions, and recommendations pertaining to the properties and uses of the products herein are based upon tests and data believed to be accurate; however, the final determination regarding the suitability of any material described herein for the use contemplated, the manner of such use, and whether the use infringes any patents is the sole responsibility of the user. There is no warranty, expressed or implied, including, without limitation warranty of merchantability or fitness for a particular purpose. Under no circumstances shall we be liable for incidental or consequential loss or damage.

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Item: Mylar* Polyester Film Type MO/MO-21

Typical Values:	<u>500</u>	<u>750</u>	<u>900</u>	<u>1000</u>	<u>1400</u>
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Thermal Properties

Shrinkage - MD 150 C° (300 F°) for 30 min. (%)	1.5	1.5	1.5	1.5	1.5
Melt Point (C°)	251	251	251	251	251

Electrical Properties

Dielectric Strength A.C. - 25 C° (75 F°) (KV)	14.0	18.0	19.0	20.0	20.5
Dielectric Constant 25 C° (75 F°) 100 Hz and 1 KHz	3.2	3.2	3.2	3.2	3.2
Dissipation Factor 25 C° (75 F°) 100 Hz and 1 KHz	.0020 .0040	.0020 .0040	.0020 .0040	.0020 .0040	.0020 .0040
Volume Resistivity 25 C° (75 F°) (ohm-cm)	10 ¹⁷	10 ¹⁷	10 ¹⁷	10 ¹⁷	10 ¹⁷
Surface Resistivity 25 C° (75 F°), 30% R.H. (ohm/sq.)	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵	10 ¹⁵
Corona Resistivity 1,000 V (hrs.)	5	5	5	5	5