3M™ Electrical, Electronic and EMI Shielding Tapes Selection Guide

3M Innovation

3M™ Electrical Tapes

Number	Features	Backing Description	Adhesive	Operating Temperature (°C) †	Total Thickness (mils)/(mm)	Dielectric Breakdown (Volts)	Insulation Resistance (megohms)	Breaking Strength (lb/in)/(N/10 mm)	Elongation (% at Break)	Electrolytic Corrosion Factor	Adhesion to Steel (oz/in)/(N/10 mm)	UL 510 Flame Retardant	CTI Material Group
Glass Cloth													
27	Edge-tear resistant, conformable, abrasion resistant; for use as coil cover, anchor, banding and core, layer and crossover insulation; **PRINTABLE**.	Glass Cloth	RT	150	7.0/0.177	3,000	4.5×10^4	150/262	5	0.9	30/3,3	–	1
69	Edge-tear resistant, conformable, high-temperature flame-retardant adhesive; for use as coil cover, anchor, for banding and core, layer and crossover insulation; **PRINTABLE**.	Glass Cloth	ST	200	7.0/0.177	3,000	4.8×10^4	180/314	5	0.9	40/4,4	Yes	1
79	Edge-tear resistant, conformable, solvent-resistant; for use as coil cover, anchor, and as core, layer and crossover insulation; **PRINTABLE**.	Glass Cloth	A	150	7.0/0.177	3,000	2.7×10^2	150/262	5	0.9	30/3,3	–	1
90	Edge-tear resistant, conformable, abrasion and fray resistant; for use as coil cover, anchor, banding and core, layer and crossover insulation; **PRINTABLE**.	Saturated Glass Cloth	RT	155	7.0/0.177	3,000	1×10^2	150/262	5	–	40/4,4		1
Acetate Cloth													
11	Conformable; for use as coil cover, black; **PRINTABLE**.	Acetate Cloth	RT	105	7.0/0.178	2,000	2×10^4	35/62	10	1.0	40/4,4	–	1
28	Similar to 11 Tape, white; **PRINTABLE**.	Acetate Cloth	RT	105	8.0/0.203	2,500	2×10^4	40/70	10	1.0	40/4,4	–	1
Composite Film													
44	Puncture resistant; excellent electrical properties; tough, conformable; for insulating, anchoring and banding in motors and transformers.	Polyester Film/Mat	RT	130	5.5/0.139	5,500	$>1 \times 10^6$	40/70	50	1.0	40/4,4	–	1
55	Edge-tear, puncture and abrasion resistant; for use as coil cover, lead pad and core, layer and crossover insulation.	Polyester Film/Mat	RT	130	7.5/0.190	6,000	$>1 \times 10^6$	35/62	30	1.0	80/8,7	–	1
MR94	Excellent electrical properties; conformable; for insulating, anchoring, banding and protecting start lead wires, terminal strips, end turns and connections on motors and transformers.	Polyester Film/Mat	RT	130	4.0/0.101	5,000	$>1 \times 10^5$	30/53	50	1.0	40/4,4	–	1
MR94B	Excellent electrical properties; conformable; for insulating, anchoring, banding and protecting start lead wires, terminal strips, end turns and connections on motors and transformers.	Polyester Film/Mat	RT	130	4.0/0.101	5,000	$>1 \times 10^6$	30/53	50	1.0	40/4,4	–	111A
Filament Reinforced													
46	Good tensile strength and edge-tear resistance; for use in end-turn taping.	Polyester Film/Glass Filament	RT	130	7.0/0.177	5,500	3×10^3	275/481	5	1.0	50/5,5	–	11
1276	Solvent-resistant, high shear strength adhesive; good tensile strength for holding in oil-filled transformer applications.	Paper/ Glass Filament	A	105	9.0/0.228	3,500	–	275/481	5	1.0	40/4,4	–	–
1312	Edge-tear resistant, good tensile strength; For use In holding and banding.	Polyester Film/ Synthetic Filament	RN	130	7.5/0.190	5,500	$>1 \times 10^6$	275/481	5	1.0	65/7,1	–	1
1339	Solvent-resistant, high shear strength adhesive; good tensile strength and edge-tear resistance; for holding applications.	Polyester Film/Glass Filament	A	130	6.5/0.165	5,500	1×10^5	275/481	5	1.0	35/3,8	–	1
Paper													
12	For banding coils and for cover on bobbin-wound coils.	Flatback	RT	105	5.5/0.14	2,000	$>1 \times 10^6$	30/53	–	–	45/4,9	–	1
16	Conformable; for use as coil cover and end-turn taping.	Crepe	RT	105	9.0/0.228	2,500	$>1 \times 10^6$	25/44	10	–	50/5,5	–	1

† Operating Temperature is equivalent to UL Recognition Temperature where applicable (see page 7).

3M™ Electrical Tapes

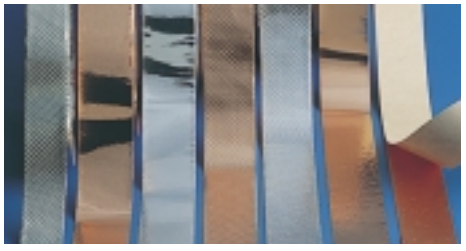
Epoxy Film

Number	Features	Backing Description	Adhesive	Operating Temperature (°C) †	Total Thickness (mils)/(mm)	Dielectric Breakdown (Volts)	Insulation Resistance (megohms)	Breaking Strength (lb/in)/(N/10 mm)	Elongation (% at Break)	Electrolytic Corrosion Factor	Adhesion to Steel (oz/in)/(N/10 mm)	UL 510 Flame Retardant	CTI Material Group
1	2.2-mil flame-retardant backing; excellent handling properties, high dielectric strength, solvent and flagging resistant; for use as an outer wrap on wrap and fill capacitors, coil cover, interlayer insulation and wire harness; **PRINTABLE**.	Epoxy Film	A	130	3.5/0.088	6,500	>1 x 10^6	30/53	120	1.0	40/4,4	Yes	1
Super 10	Tough, conformable, resistant to solder damage, puncture resistant, good electrical properties, good handling properties; for use as coil cover, anchor, harnessing, banding and as core, layer and crossover insulation.	Epoxy Film	RT	155	5.0/0.127	8,000	>1 x 10^6	45/79	120	1.0	45/4,9	Yes	1
Super 20	Tough, conformable, resistant to puncture and solder damage, good electrical and handling properties; excellent flagging, solvent resistance; good high temperature shear strength; for use as coil cover, anchor, harnessing, banding and as core, layer and crossover insulation; **PRINTABLE**.	Epoxy Film	A	155	5.0/0.127	8,000	>1 x 10^6	45/79	120	1.0	30/3,3	Yes	1

Polyester Film

5	1-mil film; solvent-resistant; for use in coil and capacitor holding applications.	Film	A	130	2.5/0.063	5,500	>1 x10^6	25/44	100	1.0	35/3,8	–	1
54	1-mil film; for use in fine wire coils where magnet wire serves to color code.	Film	RT	130	2.5/0.063	5,500	>1 x 10^6	25/44	100	1.0	45/4,9	–	1
56	1-mil film; for use as layer insulation and coil cover in 130°C applications.	Film	RT	130	2.3/0.058	5,500	>1 x 10^6	25/44	100	1.0	50/5,5	–	1
57	2-mil film; for use as a coil cover, layer insulation and capacitor wrap where higher electrical strength is desirable.	Film	RT	130	3.3/0.083	7,000	>1 x 10^6	50/88	110	1.0	60/6,5	–	1
58	2-mil film; for use as a coil cover, layer insulation and capacitor wrap where higher electrical strength is desirable.	Film	RT	130	3.3/0.083	7,000	>1 x 10^6	50/88	110	1.0	60/6,5	–	1
74	0.5-mil film; conformable; provides good electrical strength for coil applications where space is at a premium.	Film	RT	130	0.8/0.020	3,500	>1 x 10^6	12/21	100	1.0	20/2,2	–	1
75	1-mil film; coated on both sides; for use in bonding applications requiring a positive insulation barrier.	Double-Coated Film	RT	130	3.8/0.096	6,500	>1 x 10^6	25/44	100	1.0	45/4,9	–	1
1298	1-mil film with flame-retardant adhesive; excellent flagging and solvent resistance; for use as an outer wrap on capacitors and coils; **PRINTABLE**.	Film	A	130	2.5/0.063	5,500	>1 x 10^6	25/44	100	1.0	40/4,4	Yes	11
1318-1	1-mil film; excellent flagging and solvent resistance; for use as an outer wrap on capacitors and coils; **PRINTABLE**. *	Film	A	130	2.5/0.063	5,500	>1 x 10^6	25/44	100	1.0	30/3,3	–	Y-1 W-111A
1318-2	2-mil film; excellent flagging and solvent resistance; for use as an outer wrap on capacitors and coils; **PRINTABLE**. *	Film	A	130	3.3/0.083	7,000	>1 x 10^6	50/88	110	1.0	30/3,3	–	Y-1 W-111A
1350-1	1-mil film with flame-retardant adhesive; excellent flagging and solvent resistance; for use as an outer wrap on capacitors and coils; **PRINTABLE**. *	Film	A	130	2.5/0.063	5,500	>1 x 10^6	25/44	100	1.0	30/3,3	Yes	Y-11 W-111A
1350-2	2-mil film with flame-retardant adhesive; excellent flagging and solvent resistance; for use as an outer wrap on capacitors and coils; **PRINTABLE**. *	Film	A	130	3.3/0.083	7,000	>1 x 10^6	50/88	110	1.0	30/3,3	Yes	Y-11 W-111A
1350T-1	3-mil triple-layer PET film tape which has UL component.‡	Reinforced Insulation Film	A	130	3.0/0.075	6,500	>1 x 10^6	44/77	50	1.0	25/2.8	Yes	11

† Operating Temperature is equivalent to UL Recognition Temperature where applicable (see page 7).
*In addition to the white and yellow featured above, 1318 and 1350 are also available in black.
‡This tape chart is a comparative guide for tape selection purposes. All property values shown are typical and are not intended fot specification purposes. They are based on tests performed in accordance with ASTM D 1000, except Electrolytic Corrosion Factor, which is a 3M Test Method available on request. Proposed specifications detailing maximum and minimum values are also available on request.



3M™ Electrical Tapes

Polyimide Film

Number	Features	Backing Description	Adhesive	Operating Temperature (°C) †	Total Thickness (mils)/(mm)	Dielectric Breakdown (Volts)	Insulation Resistance (megohms)	Breaking Strength (lb/in)/(N/10 mm)	Elongation (% at Break)	Electrolytic Corrosion Factor	Adhesion to Steel (oz/in)/(N/10 mm)	UL 510 Flame Retardant	CTI Material Group
92	1-mil film; tough, thin, designed for high-temperature applications; used on coils, capacitors and harnesses; **PRINTABLE**.	Film	ST	180	3.0/0.076	7,500	>1 x 10^6	30/53	55	1.0	25/2,8	Yes	111B
1205	1-mil film; solvent-resistant version of 92 Tape.	Film	A	155	3.0/0.076	7,500	>1 x10^6	30/53	55	1.0	35/3,8	Yes	111B

PTFE Film

Number	Features	Backing Description	Adhesive	Operating Temperature (°C) †	Total Thickness (mils)/(mm)	Dielectric Breakdown (Volts)	Insulation Resistance (megohms)	Breaking Strength (lb/in)/(N/10 mm)	Elongation (% at Break)	Electrolytic Corrosion Factor	Adhesion to Steel (oz/in)/(N/10 mm)	UL 510 Flame Retardant	CTI Material Group
60	2-mil film; consistent physical and electrical properties over a broad temperature range; for use on high temperature coils, capacitors and wire harnesses.	Film	ST	180	4.0/0.102	9,500	>1 x 10^6	20/35	200	1.0	30/3,2	Yes	1
61	5-mil film; suitable for applications similar to 60 Tape where high dielectric and breaking strength are required.	Film	ST	180	7.0/0.178	15,000	>1 x 10^6	45/79	300	1.0	35/3,8	Yes	1
62	2-mil film; bondable backside for higher adhesion to its own backing and better bonding of resins and varnishes; suitable for applications similar to 60 Tape; **PRINTABLE**.	Bondable Film on liner	ST	180	4.0/0.102	9,500	> 1x10^6	20/35	200	1.0	30/3,2	Yes	1
63	2-mil film; similar to 60 Tape; solvent-resistant adhesive; for use where chemical properties are more important than temperature resistance.	Film	A	155	3.5/0.088	9,500	>1 x 10^6	20/35	200	1.0	35/3,8	Yes	1

Vinyl

Number	Features	Backing Description	Adhesive	Operating Temperature (°C) †	Total Thickness (mils)/(mm)	Dielectric Breakdown (Volts)	Insulation Resistance (megohms)	Breaking Strength (lb/in)/(N/10 mm)	Elongation (% at Break)	Electrolytic Corrosion Factor	Adhesion to Steel (oz/in)/(N/10 mm)	UL 510 Flame Retardant	CTI Material Group
22	Heavy-duty insulation designed for general purpose use where greater mechanical strength and abrasion resistance are required.	PVC	RN	80	10.0/0.254	12,000	>1 x 10^6	20/35	200	1.0	25/2,7	Yes	–
33	Provides moisture-tight electrical and mechanical protection; good resistance to abrasion, moisture, alkalies, acids and varying weather conditions (including ultraviolet exposure).	PVC	RN	80	7.0/0.177	7,000	>1x 10^6	17/30	200	1.0	24/2,6	Yes	–
Super 33+	All-weather vinyl insulating tape; conformable for cold weather applications; excellent resistance to abrasion, moisture, alkalies, acids, and copper corrosion.	PVC	RN	80/105	7.0/0.177	8,750	>1 x 10^6	15/26	250	–	28/3,0	Yes	–
35	Color coding tape available in 9 fade-resistant colors*; abrasion and weather resistant; for use in phase identification, color coding leads and piping systems, and for marking safety areas; resistant to moisture, alkalies, acids and copper corrosion.	Colored PVC	RN	80/105	7.0/0.177	8,750	>1 x 10^6	17/30	225	–	20/2,2	Yes	–
Super 88	All-weather vinyl insulating tape; conformable for cold weather applications; excellent resistance to abrasion, moisture, alkalies, acids, UV rays and weather. Thicker for quicker build-up.	PVC	RN	80/105	8.5/0.215	10,000	>1 x 10^6	20/35	250	–	25/2,7	Yes	–
1510	Good quality and economical general purpose insulating tape; high dielectric strength, conformable and mechanical protection.	PVC	RN	80	5.0/0.127	5,000	–	14/25	150	–	18/2,0	–	–
1710	Good quality, economical general purpose insulating tape; good resistance to abrasion, moisture, alkalies, acid, copper corrosion and varying weather conditions (including ultraviolet).	PVC	RN	80	7.0/0.177	7,500	>1 x 10^6	17/30	200	–	24/2,6	Yes	–

† Operating Temperature is equivalent to UL Recognition Temperature where applicable (see page 7).

*In addition to the green featured above, 35 is also available in these colors:

35 35 35 35

35 35 35 35

3M™ Electronic Tapes

Number	Features	Backing Description	Breaking Strength (lb/in)/(N/10mm)	Adhesion to Steel (oz/in)/(N/10mm)	Static Charge Generation at 50% RH Remove from roll (volts)	Remove from stainless Steel (volts)
General Use						
40	General-use utility tape, 1-mil polyester film backing, anti-static conductive polymer adhesive. Available with or without preprinted static symbol.	FILM	20/35	15/1,7	5	5
High Temp Masking						
42	Solder mask tape, high-temperature Kapton™ polyimide backing, anti-static conductive polymer adhesive.	FILM	28/49	15/ 1,7	5	5

Antistatic Properties

Number	Features	Backing Description	Breaking Strength (lb/in)/(N/10mm)	Adhesion to Steel (oz/in)/(N/10mm)	Static Charge Generation at 50% RH Remove from roll (volts)	Remove from stainless Steel (volts)
Conformal Coat Masking						
8901	High-temperature tape with a silicone adhesive for use in composite bonding operations or to remove flashing after bonding. Excellent for use as a masking tape in PCB conformal coating applications.	FILM	28/ 49	32/3,6		

Miscellaneous

Number	Tape Description	Features	Adhesive	Operating Temperature (°C)*	Total Thickness (mils)/(mm)
9755	High Performance Adhesive Transfer Tape	F-9752PC and F-9755PC tapes utilize the A-35 high performance adhesive system which offers the ability to make adhesive bonds at temperatures as low as 32˚F(0˚C).	Acrylic	149	5.0/0127
1157R	Porous Rayon Non-Woven	1157R tape is specifically designed to allow thorough penetration of the impregnating resin inside bobbin-wound coils.	Acrylic	130	4.0/0102

3M EMI Shielding Tapes

EMI Shielding

Number	Features	Backing Description	Adhesive	Operating Temperature (°C) †	Total Thickness (mils)/(mm)	Dielectric Breakdown (Volts)	Electrical Resistance (ohms)	Breaking Strength (lb/in)/(N/10 mm)	Elongation (% at Break)	Electrolytic Corrosion Factor	Adhesion to Steel (oz/in)/(N/10 mm)	UL 510 Flame Retardant
1170	2-mil foil; conductive-adhesive system; for EMI shielding, static charge draining, grounding; easily die cut.	Aluminum	AC	–	3.2/0.081	–	0.010	20/35	–	–	35/3,8	Yes
1181	1.4-mil foil; conductive-adhesive system; for EMI shielding, static charge draining, grounding; solderable; easily die cut.	Copper	AC	–	2.6/0.066	–	0.005	25/44	–	–	35/3,8	Yes
1182	1.4-mil foil; coated on both sides with conductive adhesive; for EMI shielding, static charge draining, grounding; solderable; easily die cut.	Copper (Double-Coated)	AC	–	3.5/0.088	–	0.010	25/44	–	–	35/3,8	Yes
1183	1.4-mil foil; conductive-adhesive system; oxidation resistant for excellent long-term EMI shielding, static charge draining, grounding; solderable; easily die cut.	Tin-Plated Copper	AC	–	2.6/0.066	–	0.005	25/44	–	–	35/3,8	Yes
1190	4.5 mil metallized fabric; conductive adhesive; lightweight; conformable; high strength; for EMI shielding, grounding.	Copper-Plated Polyester Ripstop Fabric	AC	–	6.0/0.153	–	0.005	70/123	–	–	30/3,2	No
1194	1.4-mil foil; nonconductive adhesive; for EMI shielding; static charge draining when grounded; easily die cut.	Copper	A	–	2.6/0.066	–	N/A	25/44	–	–	40/4,4	Yes
1245	1.4-mil foil; conductive through adhesive; for EMI shielding; static charge draining, grounding; solderable; easily die cut.	Embossed Copper	A	–	4.0/0.101	–	0.001	25/44	–	–	35/3,8	Yes
1267	2-mil foil; conductive through adhesive; for EMI shielding; static charge draining, grounding; easily die cut.	Embossed Aluminum	A	–	5.0/0.127	–	0.005	20/35	–	–	35/3,8	Yes
1345	1.4-mil foil; conductive through adhesive; oxidation resistant for excellent long-term EMI shielding, static charge draining, grounding; solderable; easily die cut.	Embossed Tin-Plated Copper	A	–	4.0/0.101	–	0.001	25/44	–	–	45/4,9	Yes
9703	A solvent-free conductive-adhesive transfer tape featuring anisotropic electrical conductivity with consistent caliper and high ultimate bond strength with moderate high-temperature performance	Adhesive	A	–	2.0/.051	–	–	—	–	–	50/5,5	–

† Operating Temperature is equivalent to UL Recognition Temperature where applicable (see page 7).

Industry Specifications – Vinyl Tape

UL Listed in UL File E129200, Product Category OANZ

Specification	Number	Type
UL 510 For use as electrical insulation up to 600 volts and 80°C	22, 33, Super 33+, 35, Super 88, 1710	PVC Insulating Tape
Flame Retardancy The following tapes meet the flame retardancy requirements of UL 510	22, 33, Super 33+, 35, Super 88, 1710	PVC Insulating Tape

CSA Certified in CSA File LR48769, Product Class 9052-02

Specification	Number	Type
CSA 22.2 No. 197 For use as electrical insulation up to 1000 volts at temperatures not to exceed 80°C	22, 1710	PVC Insulating Tape
For use as electrical insulation up to 1000 volts at temperatures not to exceed 105°C	Super 33+, 35, Super 88	PVC Insulating Tape

Industry Specifications

UL Recognized Components in UL File E17385, Product Category OANZ2

Specification	Number	Type
For use at temperatures not to exceed 200°C	69	Glass Cloth
For use at temperatures not to exceed 155°C	90 Super 10, Super 20	Glass Cloth Epoxy Film
For use at temperatures not to exceed 150°C	27, 79	Glass Cloth
For use at temperatures not to exceed 130°C	1 44, 44D, 44T, 55, MR94, MR94B 5, 54, 56, 57, 58, 74, 75, 1298, 1318-1, 1318-2,1350-1,1350-2, 1350T-1 46, 1312, 1339	Epoxy Film Composite Film Polyester Film Filament Reinforced
Flame Retardancy The following tapes meet the flame retardancy requirements of UL 510	1, Super 10, Super 20 1298, 1350-1,1350-2, 1350T-1 69 92, 1205 60, 61, 62, 63 1170, 1181, 1182, 1183, 1194, 1245, 1267, 1345	Epoxy Film Polyester Film Glass Cloth Polyimide Film PTFE Film Foil
UL Component Recognition for use as reinforced insulation as specified in UL 1950 para.2.9.4.2	1350T-1	Triple-layer Polyester Film

Comparative Tracking Index (CTI) %

Specification	Number	Type
Performance Level		
CTI Group I	1, 510, 520,44, 44D, 44T, 56	
CTI Group II	27, 69, 1298, 1312, 1318-1Y, 1318-2Y, 1350-1Y, 1350-2Y, 1350T-1	
CTI Group IIIa	MR94B, 1350-1W, 1350-2W	

Military

Specification	Number	Type
MIL-I-15126F (Type MFT 2.5)	54, 56,	Polyester Film
MIL-I-15126F (Type MFT 3.5)	57, 58,	Polyester Film
MIL-I-15126F (Type MF 2.5)	5, 1298, 1318 1 mil, 1350 1 mil	Polyester Film
MIL-I-15126F (Type ACT)	11, 28	Acetate Cloth
MIL-I-19166C	69	Glass Cloth
MIL-I-23594C, Type 1, Class 1	60	PTFE Film
MIL-I-23594C, Type 1, Class 4	61	PTFE Film
MIL-I-23594C, Type 2, Class 1	62	Bondable PTFE Film

Tape Dimensions

Specification	Number
Standard Lengths*	
16 meters (18 yards)	1170, 1181, 1182, 1183, 1190, 1245, 1267, 1345
18 meters (20 yards)	1710
20 meters (22 yards)	22, 33, S33+, 35, 88, 1510
30 meters (32.8 yards)	44T
33 meters (36 yards)	22, 33, S33+, 42, 60, 61, 62, 63, 69, 75, S88, 92, 1194, 1205, 1710, 9703
45 meters (49.2 yards)	44D
55 meters (60 yards)	12, 16, Super 10, Super 20, 27, 46, 79, 90, 1276, 1312, 1339, 9755
66 meters (72 yards)	1, 5, 11, 28, 40, 54, 55, 56, 57, 58, 74, 1157R,1298, 1318-1, 1318-2, 1350-1, 1350-2, 1350T-1, 8901
82 meters (90 yards)	44, MR94, MR94B

* Other tape lengths are available; contact your 3M sales representative or Customer Service for information.

Slitting

Specification	Number	Type
Precision Slitting		
3M will provide a special slitting tolerance ± 0.005" on selected tapes. The minimum width for this service is 0.125" and the maximum width is 2.000". Contact your 3M sales representative for precision slitting prices on the following tapes	1 55, MR94,MR94B 5, 54, 56, 57, 58, 74, 1298, 1318, 1350 12 92, 1205 60, 61, 62, 63	Epoxy Film Composite Film Polyester Film Paper Polyimide Film PTFE Film
Standard Slitting		
Slitting tolerances are dependent on the type of backing. All tapes have a width tolerance of ± 1/64," with the exception of vinyl, acetate and glass cloth which have a tolerance of ± 1/32.		

Printing Options

Specification	Number	Type
Printability*		
There are five available methods for imprinting tapes: Ink Jet Hand Stamping/Hot Stamping/Letterpress/Flexographic/Offset.	1, Super 20 1298, 1318, 1350 27, 69, 79, 90 11, 28	Epoxy Film Polyester Film Glass Cloth Acetate Cloth
All 3M brand electrical tapes are printable by hot stamping. Some tapes in the 3M line are more suited for the other methods. They are:	62 92	PTFE Film Polyimide Film

*Printer converters who print with flexography should contact their 3M sales representative to determine the tapes that are suitable for this printing method.
‡This tape chart is a comparative guide for tape selection purposes. All property values shown are typical and are not intended fot specification purposes. They are based on tests performed in accordance with ASTM D 1000, except Electrolytic Corrosion Factor, which is a 3M Test Method available on request. Proposed specifications detailing maximum and minimum values are also available on request.

ISO 9002 Registration

The 3M facilities which manufacture the electrical, electronic and EMI shielding tapes in this publication have been registered by Underwriters laboratories, Inc. to the International Standards Organization ISO 9002 quality management system standard. For the customer, registration provides proof of the quality of suppliers' systems. For companies with numerous manufacturing sites, such as 3M, ISO registration provides a consistent and efficient method of standardization.

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