



Electrical Solutions for Mining & Metallurgy



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Made in the USA with Global Components



Underwriters Laboratories



Compliance, Safety, Accountability

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3 3M™ Scotchcast™ Cable Splicing Kits 8096 Series



8 3M™ Cold Shrink QT-III Indoor Terminations



4 3M™ Mining Cable Splice Kits 3100 Series



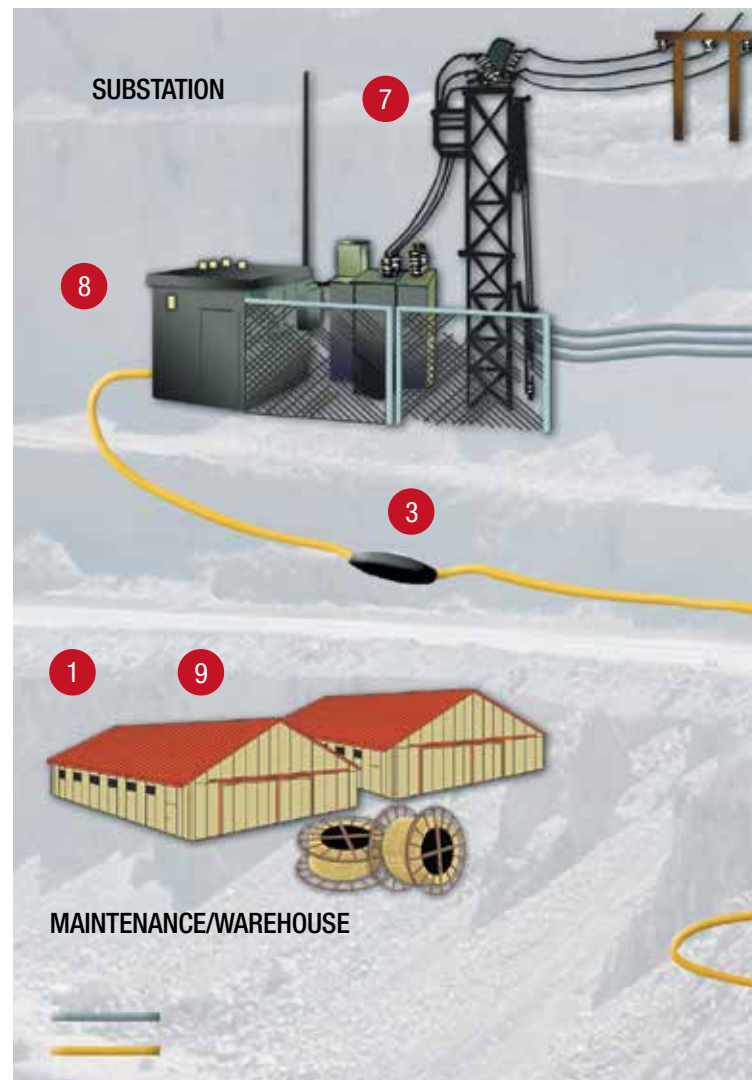
9 3M™ Novec™ Aerosol Cleaners



5 3M™ PanelSafe™ Lockout System

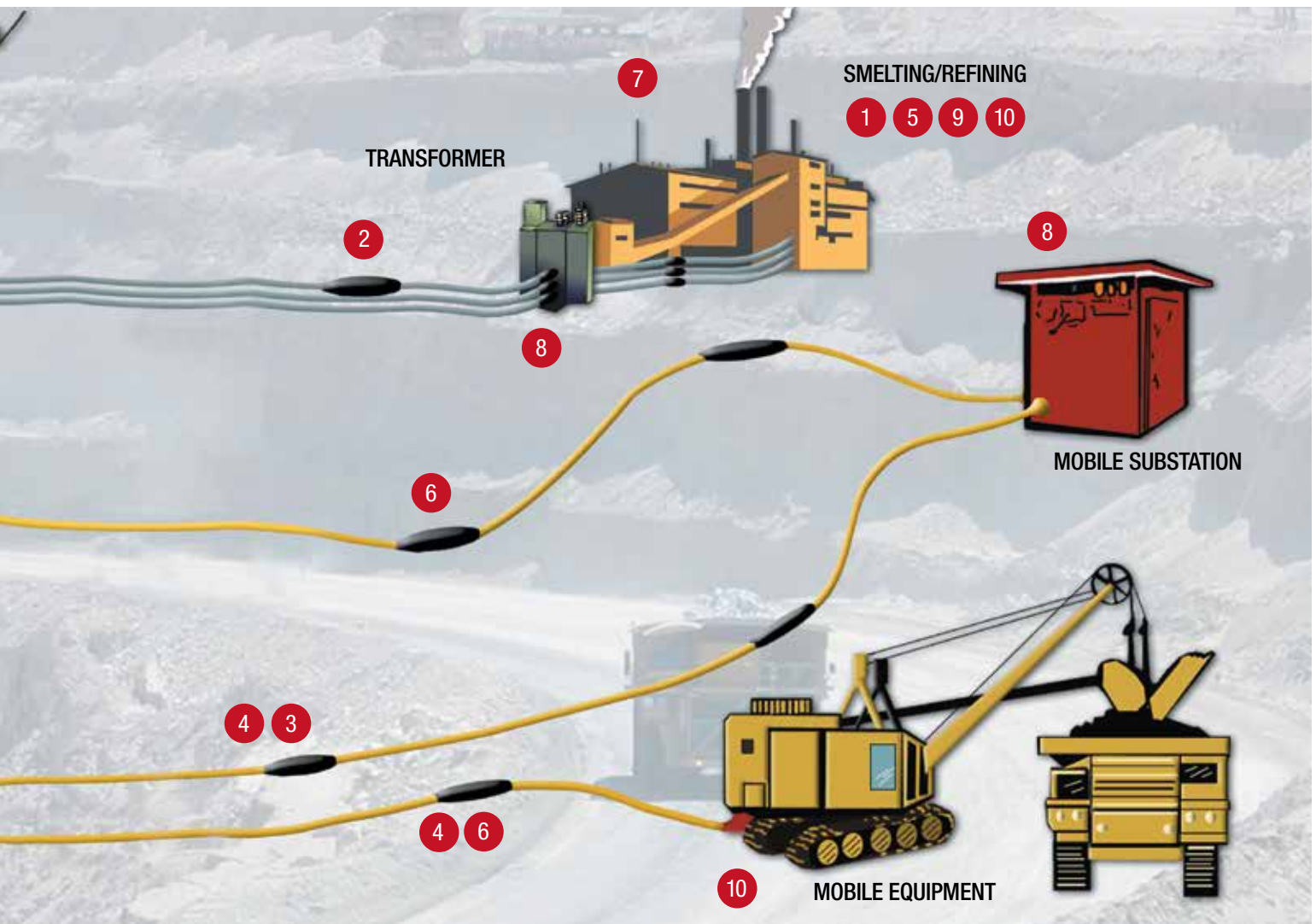


10 3M™ Scotchcast™ Re-Enterable Electrical Insulating Resin 2123



A Family of Products for Demanding Environments

You're in a demanding industry. To be successful, you need a wide range of reliable products designed to effectively manage your daily processes. You need a supplier with a solid understanding of your industry and the technology that drives it. Quite simply, you need 3M. Our Electrical Markets Division designs and manufactures a comprehensive line of products that can address your diverse applications. Widely recognized for our innovation, reliability and global corporate strength, 3M has the products you need and the name you trust.



Scotch® and 3M™ Electrical Tapes

For over 65 years, 3M has been one of the world's leading suppliers of electrical tapes. The broad 3M line includes numerous vinyl tapes, including our stretchier and stickier all-weather tape Scotch® Super 33+™ Vinyl Electrical Tape, Scotch® Color-Coding Vinyl Electrical Tapes 35 and all-weather Scotch® Vinyl Electrical Tape Super 88.

Durable 3M Electrical Tapes have excellent resistance to abrasion, moisture, UV rays and many caustic substances. They are compatible with solid dielectric cable insulation. And because they're designed with the electrician in mind, they're easy to apply properly in a wide range of temperatures, indoors and out.

Vinyl Electrical Tapes



Vinyl Electrical Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size	
Scotch® Super 33+™ Professional Grade Vinyl Electrical Tape			Highly conformable, super stretchy in most weather applications; resists UV rays, abrasion, corrosion, alkalis and acids. Primary insulation for splices up to 600 V. Protective jacketing.	7 mil	105°C 221°F	0.75" x 66' (19 mm x 20,1 m) 0.75" x 44' (19 mm x 13,4 m) 0.75" x 20' (19 mm x 6,0 m) 0.75" x 36 yd (19 mm x 32,9 m) 1" x 36 yd (25,4 mm x 32,9 m) 1.5" x 36 yd (38 mm x 32,9 m)
Scotch® Heavy Duty Grade Vinyl Electrical Tape Super 88			All-weather; heavy duty, professional use, abrasion resistant, fast build up. Primary insulation for splices up to 600 V. Protective jacketing.	8.5 mil	105°C 221°F	0.75" x 66' (19 mm x 20,1 m) 0.75" x 44' (19 mm x 13,4 m) 0.75" x 36 yd (19 mm x 32,9 m) 1" x 36 yd (25,4 mm x 32,9 m) 1.5" x 36 yd (38 mm x 32,9 m) 1.5" x 44' (38 mm x 13,4 m) 2" x 36 yd (51 mm x 32,9 m)
Scotch® Professional Grade Color Coding Vinyl Electrical Tape 35			Nine fade-resistant colors, super stretchy and conformable, excellent insulating properties. Resists abrasion, corrosion, alkalis and acid. Phase identification and marking. Harnessing.	7 mil	105°C 221°F	0.75" x 66' (19 mm x 20,1 m) 0.5" x 20' (12 mm x 6,1 m)
Scotch® Extra Heavy Duty Grade Vinyl Electrical Tape 22			Thicker for increased mechanical strength and abrasion resistance. Electrical insulating. Bus bar insulation. Cable jacket repair.	10 mil	80°C 176°F	0.5" x 36 yd (13 mm x 32,9 m) 0.75" x 36 yd (19 mm x 32,9 m) 1" x 36 yd (25,4 mm x 32,9 m) 1.5" x 36 yd (38 mm x 32,9 m) 2" x 36 yd (51 mm x 32,9 m)
3M™ Highland™ Medium Grade Vinyl Electrical Tape			Flexible, stretchy, conformable, commercial-grade vinyl. Flame retardant. Protective jacketing. Harnessing. Bundling.	7 mil	90°C 194°F	0.75" x 36 yd (19 mm x 32,9 m) 0.75" x 66' (19 mm x 20,1 m)
3M™ Temflex™ General Use Vinyl Electrical Tape 1700			Flexible, general purpose tape. Protective jacketing. Harnessing. Bundling.	7 mil	80°C 176°F	0.75" x 60' (19 mm x 18,2 m) 0.75" x 36 yd (19 mm x 32,9 m)
3M™ Economy Tape 1400			Economical, general purpose tape. Protective jacketing. Harnessing. Bundling.	7 mil	80°C 176°F	0.75" x 60' (19 mm x 20,1 m)
3M™ Temflex™ Mining Grade Vinyl Electrical Tape 1700P			Insulate and repair mining cable jacketing. Flame retardant. Printed for use in MSHA-approved splicing kits.	7 mil	80°C 176°F	0.75" x 66' (19 mm x 20,1 m) 1.5" x 44' (38 mm x 13,4 m) 1.5" x 66' (38 mm x 20,1 m)

**MSHA
approved**

Insulating and Splicing Tapes



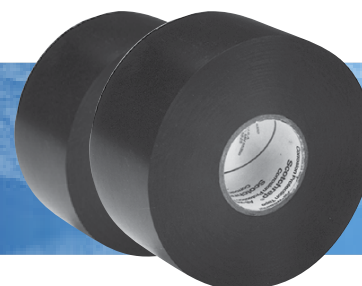
Insulating and Splicing Tapes			Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Professional Grade Linerless Rubber Splicing Tape 130C  			High voltage insulating; thermally conductive; self-fusing. Primary electrical insulation for splicing all solid dielectric cables through 69 kV.	30 mil	continuous: 90°C / 194°F short-term: 130°C / 266°F	1" x 30' (25 mm x 9,1 m) 0.75" x 30' (19 mm x 9,1 m) 1.5" x 30' (38 mm x 9,1 m) 2" x 30' (50 mm x 9,1 m) 1" x 10' (25 mm x 3,05 m) 1" x 15' (25 mm x 4,6 m)
Scotch® Professional Grade Lined Rubber Splicing Tape 23 			High- and low-voltage insulation, self-fusing rubber tape. Primary electrical insulation for splicing all solid dielectric cables through 69 kV.	30 mil	continuous: 90°C / 194°F short-term: 130°C / 266°F	0.75" x 30' (19 mm x 9,1 m) 1" x 20' (19 mm x 25 m) 1" x 30' (25 mm x 9,1 m) 1.5" x 30' (38 mm x 9,1 m) 2" x 30' (50 mm x 9,1 m)
Scotch® Mid-Grade Linerless Rubber Splicing Compound 2242  			General purpose rubber insulating tape. All-voltage splicing, jacketing and general insulating.	30 mil	continuous: 90°C / 194°F short-term: 130°C / 266°F	0.75" x 15' (19 mm x 4,56 m) 1.5" x 15' (38 mm x 4,56 m) 2" x 15' (51 mm x 4,56 m)
3M™ Temflex™ Lined Rubber Splicing Tape 2155 			Replaces 3M™ Temflex™ 2150 tape. Economical low-voltage rubber insulating tape; self-fusing. Insulating wire splices, split bolt connections and motor leads up to 600 V.	30 mil	80°C 176°F	0.75" x 22' (19 mm x 6,7 m) 1.5" x 22' (38 mm x 6,7 m)
Scotch® Professional Grade Semi-Conducting Tape 13 			Rubber tape, semi-conductive. Compatible with cable semi-conducting jackets. Electrically round high-voltage connections. Provide cable shield continuation.	30 mil	continuous: 90°C / 194°F short-term: 130°C / 266°F	0.75" x 15' (19 mm x 4,5 m) 1.5" x 66' (38 mm x 20,1 m)
Scotch® Professional Grade Shielding Tape 24 			All metal open weave shielding braid, conformable, temperature stable. Continue electrostatic shielding across splice.	—	—	1" x 15' (25 mm x 4,5 m) 1" x 100' (25 mm x 30,5 m) 2" x 10' (51 mm x 3,05 m)
Scotch® Professional Grade Grounding Tape 25  			All metal woven braid; high current carrying capacity of 6 AWG wire; solderable. Conformable ground braid for splices and terminations.	—	—	0.5" x 15' (12 mm x 4,57 m)
Scotch® Professional Grade Silicone Rubber Tape 70 			Arc and track resistant; self-fusing, long-lasting silicone rubber. Protective overwrap for terminating high-voltage cables.	12 mil	180°C 356°F	1" x 30' (25 mm x 9,14 m)
Scotch® Professional Grade Heavy Duty Triangular Silicone Rubber Tape 70HDT 			Arc and track resistant; self-fusing, long-lasting silicone rubber, triangular tapered edge profile and a blue guideline.	20 mil center, 8 mil edge	180°C 356°F	1" x 30' (25 mm x 9,14 m)
Scotch® Fire and Electric Arc Proof Tape 77 Black  			Protects cable until limiting devices can interrupt faulted current. Use of high-energy cables that are within 18" (close proximity) of other high-energy cables.	30 mil	—	1.5" x 20' (38 mm x 6,1 m) 3" x 20' (76 mm x 6,1 m)
Scotch® Fire and Electric Arc Proof Tape 77 White  			Used on high-energy cables that are within 18" (close proximity) of other cables or valuable assets. Easily visible for easy inspection.	30 mil	—	1.5" x 20' (38 mm x 6,1 m) 3" x 20' (76 mm x 6,1 m)
Scotch® Varnished Cambric Tape 2510 and 2520 			Yellow, varnish-coated cotton cloth 2510: no adhesive; 2520: adhesive. Insulate bus bars, motor leads (for re-entry), service drop connections.	2510 is 7 mil 2520 is 8 mil	105°C 220°F	0.75" x 60' (19 mm x 18,3 m) 0.75" x 36 yd (19 mm x 33 m) 1" x 36 yd (25 mm x 33 m) 1.5" x 36 yd (38 mm x 33 m) 2" x 36 yd (51 mm x 33 m) 36" x 25 yd (914,4 mm x 22,9 m) 2510 only

Sealing and Insulating Tapes



Sealing and Insulating Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size	
Scotch® Heavy Duty Mining Tape 31		 Tough, abrasion-resistant backed and flexible tape for jacket repair on mining cables.	60 mil	105°C 221°F	2" x 6' (51 mm x 1,8 m) 2" x 8.5' (51 mm x 2,6 m) 2" x 10' (51 mm x 3,05 m)	MSHA approved
Scotch® Professional Grade Vinyl Mastic Sealing Tapes 2200, 2210, 06147, and 06149		 Excellent moisture sealant; tough vinyl backing; electrical insulating. Insulate moisture-seal and pad connections up to 600 V.	2200 is 125 mil 2210 is 90 mil 6147 is 45 mil 6149 is 45 mil	80°C 176°F	6.5" x 4.5" (165 mm x 114 mm) pads 3.75" x 4.5" (82 mm x 114 mm) pads 4" x 10' (101 mm x 3,04 m) 2.5" x 10' (63 mm x 3,04 m) 2.5" x 2.5" (63 mm x 63 mm) pads	
Scotch® Professional Grade Rubber Mastic Sealing Tape 2228		 Self-fusing, rubber-based compound bonded to a moisture-sealing mastic; all weather. Insulate, pad and seal bus bar and splice connections.	65 mil	90°C / 194°F emergency overload of 130°C / 266°F	2" x 3' (50 mm x 0,9 m) 1" x 10' (25 mm x 3,0 m) 2" x 10' (51 mm x 3,05 m)	
3M™ Scotch-Seal™ Professional Grade Mastic Sealing Tape 2229		 Conformable and durable mastic. Excellent moisture and environmental seal. Sealing high-voltage cables and accessories. Requires PVC tape overwrap.	125 mil	80°C 176°F	3.75" x 10' (95 mm x 3,0 m) 1" x 10' (25 mm x 3,05 m)	
Scotch® Cable Jacket Repair Tape 2234		 Tough, black, self-healing, abrasion-resistant backing for jacket repair on industrial cables.	60 mil	105°C 221°F	2" x 6' (51 mm x 1,82 m)	
3M™ Scotchfil™ Electrical Insulation Putty		 Self-fusing, insulating putty in tape form. Smooths irregularities on fittings and valves.	125 mil	80°C 176°F	1.5" x 60" (38 mm x 1,53 m)	

Corrosion Protection Tapes



Corrosion Protection Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
3M™ Scotchrap™ Professional Grade Corrosion Protection Tapes 50 and 51		 All-weather performance and corrosion resistance. Resistant to impact and abrasions. Corrosion protection on pipes, conduits and fittings, etc.	50 is 10 mil 51 is 20 mil	80°C 176°F	1" x 100' (25 mm x 30,5 m) 2" x 100' (51 mm x 30,5 m) 3" x 100' (76 mm x 30,5 m) 4" x 100' (102 mm x 30,5 m) 6" x 100' (152 mm x 30,5 m)
3M™ Scotchrap™ Professional Grade Pipe Primer		 Quick-dry, non-sag, rubber-base primer that prepares metal surfaces for tape application. For use with Scotchrap™ tapes 50 and 51 and 3M™ Temflex™ Tape 1100.	N/A	80°C 176°F	1 gallon can (3,79 liters)

Special Use Tapes



Special Use Tapes		Product Description/Applications	Thickness	Max. Temp.	Roll Size
Scotch® Thread Sealant and Lubricant Tape 48		Pipe thread sealant that provides a leak-proof seal. Helps prevent cross threading on pipe threads.	3 mil	260°C 500°F	0.25" x 260" (6,3 mm x 7 m) 0.5" x 260" (13 mm x 7 m) 0.5" x 520" (13 mm x 13 m) 0.5" x 1296" (13 mm x 33 m)
Scotch® Glass Cloth Tape 27 and 69		Woven insulating glass cloth; high temperature resistance; high mechanical strength. Heat-stable insulation for furnace and oven controls, motor leads and switches.	27 is 7 mil 69 is 7.5 mil	27 is Class B temp (130°C / 266°F) 69 is Class H temp (180°C / 356°F)	0.5" x 66' (12 mm x 20,1 m) 0.75" x 66' (19 mm x 20,1 m) 0.75" x 60 yd (19 mm x 54,8 m) 1" x 60 yd (25 mm x 54,8 m) 1.5" x 60 yd (38 mm x 54,8 m) 0.5" x 36 yd (13 mm x 33 m) 0.75" x 36 yd (19 mm x 33 m) 1" x 36 yd (25 mm x 33 m)
Scotch® Barricade Tape 300 Series*		Durable polyethylene plastic, bold 2" letters, long roll length, will not tear easily, attracts attention. Available in various sizes, thicknesses and with different warning messages.	2 mil 3 mil 4 mil	N/A	3" x 300' (76 mm x 91,4 m) 3" x 1000' (76 mm x 304,8 m)
Scotch® Detectable Buried Barricade Tapes 400 Series*		Designed for accurately locating and helping to avoid damage to underground utility installations. Aluminum backing.	5 mil	N/A	3" x 1000' (76 mm x 304,8 m) 6" x 1000' (152 mm x 304,8 m)
Scotch® Repulpable Barricade Tapes 500 Series*		Reusable tape made of tightly-woven cotton fibers. For indoor applications and recycling areas.	N/A	N/A	3" x 150' (76 mm x 45,7 m)
3M™ Temflex™ Cotton Friction Tape 1755		High-grade friction tape. Good abrasion resistance. Abrasion protection for splices and connections. Excellent for bundling.	13 mil	80°C 176°F	0.75" x 60' (19 mm x 18,28 m) 0.75" x 82-1/2' (19 mm x 25 m) 1.5" x 82-1/2' (38 mm x 25 m)

*Various sizes, messages and thicknesses available. Ask your 3M sales representative for additional information.

3M™ Mining Cable Splice Kits 3100 Series Contents

3M™ Splice Kit Contents

Mining Cable Splice Kit 3100		Size	Voltage	Cable Range*
1	Scotch® Heavy Duty Mining Tape 31	2" x 8.5'	600 V - 2 kV	#6-500 kcmil
1	Scotch® Linerless Rubber Splicing Tape 130C	1.5" x 30'	600 V - 2 kV	#6-500 kcmil
1	3M™ Temflex™ Vinyl Electrical Tape 1700P	1.5" x 44'	600 V - 2 kV	#6-500 kcmil
1	3M™ Cable Cleaning Preparation Kit CC-2-Dry		600 V - 2 kV	#6-500 kcmil
Mining Cable Splice Kit 3103				
2	Scotch® Heavy Duty Mining Tape 31	2" x 8.5'	5 - 15 kV	#6-500 kcmil
1	3M™ Temflex™ Vinyl Electrical Tape 1700P	1.5" x 44"	5 - 15 kV	#6-500 kcmil
3	Scotch® Electrical Shielding Tape 24	2" x 10'	5 - 15 kV	#6-500 kcmil
2	Scotch® Rubber Mastic Tape 2228	1" x 10'	5 - 15 kV	#6-500 kcmil
2	3M™ Cable Cleaning Preparation Kit CC-2-Dry		5 - 15 kV	#6-500 kcmil
3	Scotch® Electrical Semi-Conducting Tape 13	0.75" x 15'	5 - 15 kV	#6-500 kcmil
3	Scotch® Linerless Rubber Splicing Tape 130C	1.5" x 30'	5 - 15 kV	#6-500 kcmil
3	Scotch® Linerless Rubber Splicing Tape 130C	0.75" x 30'	5 - 15 kV	#6-500 kcmil
Mining Cable Splice Kit 3104				
1	Scotch® Heavy Duty Mining Tape 31	2" x 8.5'	2 kV	#6-500 kcmil
1	3M™ Temflex™ Vinyl Electrical Tape 1700P	1.5" x 44'	2 kV	#6-500 kcmil
3	Scotch® Electrical Shielding Tape 24	2" x 10'	2 kV	#6-500 kcmil
1	3M™ Cable Cleaning Preparation Kit CC-2-Dry		2 kV	#6-500 kcmil
2	Scotch® Linerless Rubber Splicing Tape 130C	1.5" x 30'	2 kV	#6-500 kcmil

*Extra tape is required for large conductor sizes.



Kit Replacement Products		Size	Packaging	Minimum Order Qty
Scotch® Heavy Duty Mining Tape 31		2" x 6' length (51 mm x 1,8 m)	10 rolls/box	10 rolls
Scotch® Heavy Duty Mining Tape 31		2" x 8.5' length (51 mm x 2,6 m)	10 rolls/box	10 rolls
Scotch® Heavy Duty Mining Tape 31		2" x 10' length (51 mm x 3,05 m)	10 rolls/box	10 rolls
Scotch® Linerless Rubber Splicing Tape 130C		0.75" x 30' (19 mm x 9,1 m)	24 rolls/box	24 rolls
Scotch® Linerless Rubber Splicing Tape 130C		1.5" x 30' (38 mm x 9,1 m)	12 rolls/box	12 rolls
3M™ Temflex™ Vinyl Electrical Tape 1700P		1.5" x 44' (38 mm x 13,4)	90 rolls/box	90 rolls
Scotch® Electrical Shielding Tape 24		2" x 10' (51 mm x 3,05 m)	20 rolls/box	20 rolls
Scotch® Electrical Semi-Conducting Tape 13		0.75" x 15' (19 mm x 4,57 m)	1/box, 10/ctn.	10 rolls
Scotch® Rubber Mastic Tape 2228		1" x 10' (25 mm x 3,05 m)	12 rolls/box	12 rolls
Scotch® Rubber Mastic Tape 2228		2" x 10' (51 mm x 3,05 m)	12 rolls/box	10 rolls
3M™ Cable Cleaning Preparation Kit CC-2-Dry			10/each	10 kits
3M™ Cable Cleaning Preparation Kit CC-2			10/each	10 kits
Scotch® Glass Cloth Tape 27		0.75" x 66'	50 rolls/box	10 rolls
Scotch® Glass Cloth Tape 69		0.75" x 66'	50 rolls/box	10 rolls

3M™ Cold Shrink Terminations and Splices

3M™ Cold Shrink QT-III Indoor and Outdoor Terminations

3M™ Cold Shrink QT-III Terminations offer easy installation and reliable performance when terminating indoor and outdoor medium voltage shielded cable. The unique step-core design combined with the built in High-K stress control and environmental sealing compounds means simpler installation on all types of cable. The QT-III termination provides long-term reliability through an improved silicone rubber body with enhanced hydrophobic recovery, UV stability and track and erosion resistance. Plus, its High-K stress control design delivers excellent BIL performance and lower surface stress resulting in a more compact termination. Through superior engineering, 3M™ Cold Shrink QT-III Terminations deliver maximum performance.



3M™ Cold Shrink QT-III Termination

Agencies

Meets requirements of IEEE Standard 48.

Kit Number		BIL	Cable Insulation O.D. Range	Conductor Size Range AWG and kcmil (mm²)						
3M™ Cold Shrink QT-III Indoor Tubular Termination (Each kit makes 3 terminations)										
			in. (mm)	5 kV	8 kV	15 kV	25/28 kV	35 kV		
7620-T-95		95 kV	0.32-0.59 (8,1-15,0)	8 - 4	8 - 6					
7621-T-95		95 kV	0.44-0.89 (11,2-22,6)	2-3/0	4-2/0					
7622-T-95		95 kV	0.64-1.08 (16,3-27,4)	4/0-400	3/0-300					
7624-T-95		95 kV	0.83-1.53 (21,1-38,9)	500-750	350-700					
7625-T-95		95 kV	10.5-1.80 (26,7-45,7)	700-1500	600-1250					
7622-T-110		110 kV	0.64-1.08 (16,3-27,4)	4/0-400	3/0-300	2-4/0 (35-120)				
7624-T-110		110 kV	0.83-1.53 (21,1-38,9)	500-750	350-700	4/0-500 (120-240)				
7625-T-110		110 kV	10.5-1.80 (26,7-45,7)	700-1500	600-1250	500-1000 (240-500)				
7626-T-110		110 kV	1.53-2.32 (38,9-58,9)	1750-2000	1500-2000	1250-2000 (500-1000)				
7693-T-150		150 kV	0.72-1.29 (18,3-32,8)	300-500	250-500	2/0-300 (70-150)	2-4/0 (35-120)	2-2/0 (35-70)		
7695-T-150		150 kV	10.5-1.80 (26,7-45,7)	700-1500	600-1250	500-1000 (240-500)	250-800 (150-400)	3/0-600 (95-325)		
7696-T-150		150 kV	1.53-2.32 (38,9-58,9)	1750-2000	1500-2000	1250-2000 (625-1000)	900-1750 (500-800)	700-1500 (400-725)		
3M™ Cold Shrink QT-III Outdoor Skirted Termination (Each kit makes 3 terminations)										
7620-S-2		95 kV	0.32-0.59 (8,1-15,0)	8 - 4	8 - 6					
7621-S-2		95 kV	0.44-0.89 (11,2-22,6)	2-3/0	4-2/0					
7622-S-2		110 kV	0.64-1.08 (16,3-27,4)	4/0-400	3/0-300	2-4/0 (35-120)				
7692-S-4		150 kV	0.64-1.08 (16,3-27,4)	4/0-400	3/0-300	2-4/0 (35-120)	2-1/0 (35-50)			
7693-S-4		150 kV	0.72-1.29 18,3-32,8)	300-500	250-500	2/0-300 (70-150)	2-4/0 (35-120)			
7694-S-4		150 kV	0.83-1.53 (21,1-38,9)	500-750	350-700	4/0-500 (120-240)	2/0-250 (70-150)			
7695-S-4		150 kV	10.5-1.80 (26,7-45,7)	700-1500	600-1250	500-1000 (240-500)	250-800 (150-400)			
7696-S-4		150 kV	1.53-2.32 (38,9-58,9)	1750-2000	1500-2000	1250-2000 (625-1000)	900-1750 (500-800)			
7683-S-8		200 kV	0.72-1.29 18,3-32,8)	300-500	250-500	2/0-300 (70-150)	2-4/0 (35-120)	2-2/0 (35-70)		
7684-S-8		200 kV	0.83-1.53 (21,1-38,9)	500-750	350-700	4/0-500 (120-240)	2/0-250 (70-150)	2-4/0 (35-120)		
7685-S-8		200 kV	10.5-1.80 (26,7-45,7)	700-1500	600-1250	500-1000 (240-500)	250-800 (125-400)	3/0-600 (95-325)		
7686-S-8		200 kV	1.53-2.32 (38,9-58,9)	1750-2000	1500-2000	1250-2000 (625-1000)	900-1750 (500-800)	700-1500 (400-725)		

Final determination factor for kit selection is cable insulation diameter. For 3 core cables, please see 3M Cold Shrink QT-III Termination Brochure.

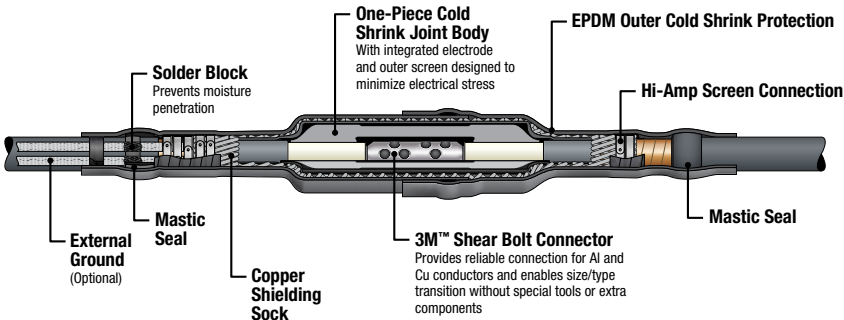
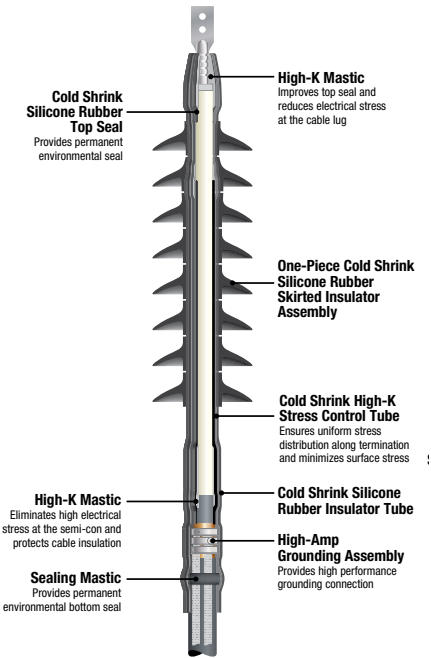
3M™ Cold Shrink QT-III Termination and QS-III Splice Kits

69 kV/72,5 kV

3M™ Cold Shrink QT-III Termination Kits and 3M™ Cold Shrink QS-III Joint Kits are designed to provide high reliability and save you time and money. They install quickly and easily, helping to reduce potential craft errors. They require no tools, sealants, adhesives, or torches. Once installed, the cold shrink tube creates a dynamic, compressive environmental seal and electrical interface without sealants or adhesives. It resists ultra-violet radiation, ozone and industry-approved cable cleaners.

Kit Number		BIL	Cable Insulation O.D. Range	Cable Jacket O.D. Range	Conductor Size Range**	Agencies	HEAT
3M™ Cold Shrink Termination and Joint kits 69 kV/72,5 kV			Inches (mm)	Inches (mm)	kcmil (mm²)		
7673-S-8(S)		350 kV	2.01-2.87 (51,1-72,9)	2.25-3.45 (57,2-87,6)	350-1500 (185-725)	IEEE 48 Class 1 IEC 60840	
7673-S-8		350 kV	2.79-3.45 (70,9-87,6)	3.00-4.25 (76,2-108,0)	1500-3000 (800-1500)	IEEE 48 Class 1 IEC 60840	
5488A-*, 5488A-JCN-XB*, 5488A-Shielded-XB*		350 kV	1.94-3.08 (49,3-75,4)	2.15-3.75 (54,6-95,2)	250-2000 (150-1000)	IEEE 404	

* Add the conductor size range which fits the cable conductor. Conductor (connector) options are 250-500, 750-1000, 1250-1500, and 1750-2000.
 "XB" kits are for cross-bonding applications.
 ** Based on 650 mil insulation thickness, the cables primary insulation O.D. is the final determining factor and must be within the range shown above.



3M™ Cold Shrink QS-III Splice 69 kV/72,5 kV

3M™ Cold Shrink QT-III Outdoor Termination 69 kV/72,5 kV

3M™ Motor Lead Splice Kits for 1, 5 and 8 kV

Pigtail Splicing for 1000 V (or less) & 5-8 kV Shielded and Non-Shielded Feeder Cables

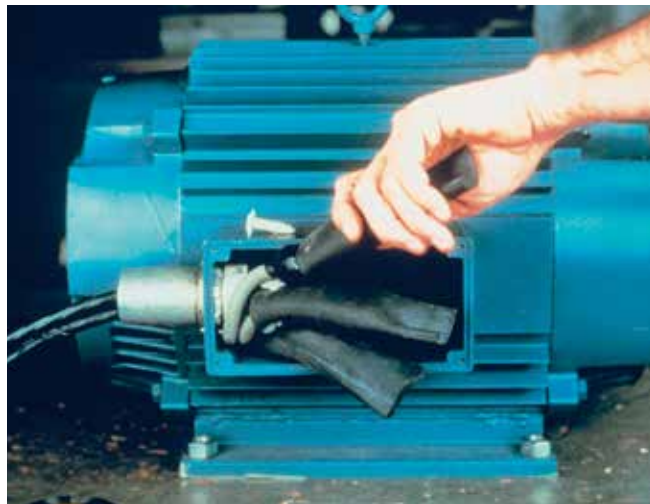
3M™ Motor Lead Kits contain everything needed to quickly splice, seal and insulate copper lug connections of motor lead and feeder cables in one convenient kit. No special tools, torch or power source is needed. All splices are easily re-enterable for inspections and motor replacement.

From the quickly applied Scotch® Stress Control Tape 2220 to the factory-formed parts and cold shrink insulators, everything is designed for simple installation with long-term reliability.

Splices are easy to re-enter, simply by pulling off the boot or sleeve. Just a few sizes of these convenient kits are needed for most pigtail splicing. They will handle 14 AWG through 500 kcmil copper feeder cables.

Each kit contains:

- Three separately packaged splices with pre-formed, slip-on rubber boots
- Mastic sealing strips



3M™ Pigtail Splicing

Final determination factor for kit selection is cable insulation diameter.

Splicing Kits 5300 to 5314

Voltage Rating: Up to 1000 V. Use with one-hole copper lugs; order lugs separately

Ordering Information

Kit Number	Conductor Range					
	Feeder		Motor Lead			
Pigtail – 1000 V	AWG	(mm²)	AWG	(mm²)		
5300 	14-10	(2,5-4)	16-12	(1,5-2,5)		
5301 	10-4	(6-16)	12-4	(4-16)		
5302 	2-1/0	(35-60)	4-1/0	(25-50)		
5303 	1/0-250	(70-120)	2-250	(35-120)		
5304 	250-500	(150-240)	4/0-500	(120-240)		
Inline - 1000 V						
5311 	10-4	(6-16)	12-4	(4-16)		
5312 	2-1/0	(35-50)	4-1/0	(25-50)		
5313 	1/0-250	(70-120)	2-250	(35-120)		
5314 	250-500	(150-240)	4/0-500	(120-240)		

Splicing Kits 5316 to 5319

Voltage Rating: Up to 8 kV (Non-Shielded). Use with one or two-hole copper lugs; order lugs separately

Ordering Information

Kit Number		Conductor Range				
		Feeder		Motor Lead		
Pigtail – 5 kV / 8 kV		AWG	(mm ²)	AWG	(mm ²)	
5316		8-4	(10-16)	10-4	(6-16)	
5317		2-1/0	(35-50)	4-1/0	(25-50)	
5318		1/0 -250	(70-120)	2 -250	(35-120)	
5319		250-500	(150-240)	4/0 -500	(120-240)	

Splicing Kits 5321 to 5324

Voltage Rating: Up to 8 kV (Shielded or Non-Shielded). Use with one or two-hole copper lugs; order lugs separately

Ordering Information

Kit Number		Conductor Range				
		Feeder		Motor Lead		
Pigtail – 5 kV/8 kV		AWG	(mm²)	AWG	(mm²)	
5321	*	8-4	(10-16)	10-4	(6-16)	
5322	*	2-1/0	(35-50)	4-1/0	(25-50)	
5323	*	1/0 -250	(70-120)	2-250	(35-120)	
5324	*	250-500	(150-240)	4/0 -500	(120-240)	

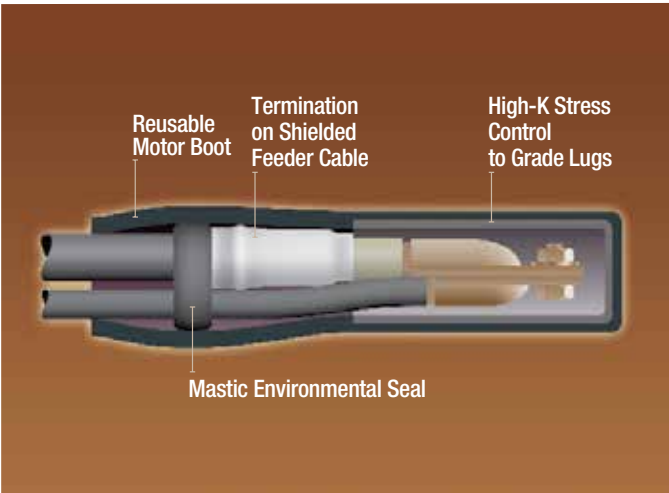
3M™ Motor Lead Splice Kits for 1, 5 and 8 kV

3M™ Motor Lead Pigtail or V-Stub Splice 5380 Series for 5 and 8 kV Shielded and Non-Shielded Cables

3M™ Motor Lead Splicing Kits 5380 Series are a series of kits designed for splicing motor lead cables to incoming feeder cables. These kits are removable and reusable. These kits can accommodate pigtail (stub) connections, 5 kV/8 kV shielded and non-shielded feeders.

The splice's main component, the lug or splice cover, is made from EPDM rubber as a slip-on insulator. Mastic is used for the moisture seal on the pigtail kits. The kits utilize a high dielectric constant (K) stress control termination for the feeder cable's electrical stress control.

These kits are designed to be used with copper compression lugs. After being crimped onto the cables, the lugs are bolted together, then insulated and sealed with the 3M™ Motor Lead Splicing Kits. Each kit contains all the necessary materials (except lugs) needed to make three splices. The lugs must be purchased separately. 3M™ Scotchlok™ Copper Compression Lugs 30000 Series, or other UL listed copper lugs, can be used.



3M™ Pigtail 5380

3M™ Motor Lead Pigtail or V-Stub Splice 5380

Voltage Rating: Up to 5 kV/8 kV (Shielded and Non-Shielded)

Specifications and Ordering Information

Kit Number	Conductor Range				
	Feeder		Motor Lead		
Pigtail – 5 kV/8 kV	AWG	(mm²)	AWG	(mm²)	
5381 	8-4	(10-16)	10-4	(6-16)	
5382 	2-1/0	(35-50)	4-1/0	(25-50)	
5383 	1/0 -250	(70-120)	2 -250	(35-120)	
5384 	250-500	(150-240)	4/0 -500	(120-240)	

3M™ Cold Shrink Mine and Portable Cable Splicing Kits

3M™ Splicing Kit 8043-1

For 5 and 8 kV Cable, Types SHD-GC, MP and MP-GC

The 8043-1 Kit can be installed without the use of heat or additional tools, and the cable returned to service quickly.

3M™ Cold Shrink Tubes, with a removable core, are designed for quick installation.

Each kit contains:

- Cold Shrink jacketing tube
- Filler tube
- Three smaller insulator tubes
- One roll each of Scotch® Electrical Semi-Conducting Tape 13, Scotch® Linerless Rubber Splicing Tape 130C, Scotch® Shielding Tape 24
- Scotch® Super 33+™ Vinyl Electrical Tape 3/4" x 20'
- Two abrasive cloths (fine and coarse)
- Scotch® Adhesive kit
- Illustrated step-by-step instruction sheet

Connectors are ordered separately. If regular power connectors are used, length cannot exceed 2 ½ inches.

Agencies

Meets American Bureau of Shipping 93-DL11873-X.



3M™ Cold Shrink Splicing Kit 8043-1***

3M™ Splicing Kits 2237A and 2238A

The kits are designed to splice SO and SJ type portable power cables (commercial grade extension cords) which are typically used in industrial environments. The 2237A kit accommodates 4-conductor 12-10 AWG and the 2238A kit accommodates 4-conductor 8 AWG.

The primary application for the kits is splicing damaged portable cable. The kits can be used for cables aboard ships, cargo operations and a variety of industrial applications.

Each kit contains:

- Cold Shrink tube
- Butt connectors
- Rubber phase
- Divider mastic strips
- Scotch® Electrical Color-Coding Tape 35
- Instructions

Ordering Information



Kit Number	Cable Type	Conductor Range AWG (mm²)		Cable O.D. Range Inches (mm)		Voltage Number
8043-1*	SHD-GC	4-2	(22-30)	1.80	(2.40)	5-8 kV
8043-1*	MP-GC, MP	3/0-4/0	(95-120)	1.80	(2.40)	5 kV
8043-1*	MP-GC, MP	1/0-2/0	(60-70)	1.80	(2.40)	8 kV
2237 A**	SO, SJ	12-10	(6)	0.62	(0.95)	1000 V
2238 A**	SO, SJ	8	(8-10)	0.62	(0.95)	1000 V

* Order connectors separately.

** Connectors included.

*** All kit components Made in USA, except 13 Tape from Brazil and 24 Tape from Mexico.

3M™ Scotchcast™ Resins

3M™ Scotchcast™ Mine and Portable Cable Splicing Kits for 5, 8 and 15 kV

Splicing Kits 8096-2, 8096-4 & 8096-6

The 3M™ Scotchcast™ Splicing Kits 8096 Series are complete cable splicing kits designed for splicing type SHD-GC three-conductor shielded cables up to 15 kV on draglines, power shovels, drills and type MPF underground power feeder cables and select trailing cables.

Each kits contains:

- Cold Shrink Insulation Tubes
- 3M™ Scotchcast™ Flame-Retardant Compound 2131
- Cable cleaning and shielding materials to complete a three-conductor cable splice

Using 3M™ Scotchcast™ Splicing Kits, you obtain durable, permanent, shop-quality splices without vulcanizing.

Non-vulcanizing

Jacket restored by Scotchcast Compound 2131 poured from two-part closed mixing pouch for convenient mixing and pouring. Compound is self-curing.

Permanent

Both electrically and mechanically flexible and moisture-resistant.

Portable

Make repairs in the mine or in the shop. Reduce costly cable and equipment down-time. Cables can be energized immediately.

Versatile

Three different cable splicing kits handle nearly all common cable sizes.



3M™ Scotchcast™ Splicing Kit 8096

No End-Lifting

Polyurethane-based cable repair compound bonds to all modern cable jacket materials-neoprene and nitrite/PVC, even PVC, EPR and CSM Rubber.

Abrasion-Resistant

Equal in performance to vulcanizing.

Agencies

Meets Mine Safety and Health Administration (MSHA) requirements for flame retardancy and carries acceptance number **07-KA06007-MSHA**. American Bureau of Shipping 93 DL11873-X.

Weather Resistant

Designed to maintain physical and electrical properties in temperature extremes.

Ordering Information

Kit Number		Cable Type	Conductor Range AWG (mm²)		Cable O.D. Range. Inches (mm)		Voltage Number	HEAT
8096-2		SHD-GC	4-1/0	(25-55)	1.85-4.0	(47.0-101.6)	5 & 8 kV	MSHA approved
		MPF-GC & MPF	4-3/0	(25-95)	1.85-4.0	(47.0-101.6)	5 & 8 kV	
		SHD-GC	2	(35)	1.85-4.0	(47.0-101.6)	15 kV*	
		MPF-GC & MPF	2-1/0	(35-55)	1.85-4.0	(47.0-101.6)	15 kV*	
8096-4		SHD-GC	4-4/0	(25-120)	1.85-4.0	(47.0-101.6)	5 & 8 kV	MSHA approved
		MPF-GC & MPF	1/0-300 kcmil	(55-150)	1.85-4.0	(47.0-101.6)	5 & 8 kV	
		SHD-GC	2-1	(35-50)	1.85-4.0	(47.0-101.6)	15 kV*	
		MPF-GC & MPF	2-3/0	(35-95)	1.85-4.0	(47.0-101.6)	15 kV*	
8096-6		SHD-GC	4/0-500 kcmil	(120-240)	1.85-6.0	(47.0-152.4)	5 & 8 kV	MSHA approved
		MPF-GC & MPF	250-500 kcmil	(130-240)	1.85-6.0	(47.0-152.4)	5 & 8 kV	
		SHD-GC	1/0-500 kcmil	(55-240)	1.85-6.0	(47.0-152.4)	15 kV*	
		MPF-GC & MPF	1/0-500 kcmil	(55-240)	1.85-6.0	(47.0-152.4)	15 kV*	

For use on three conductor mine and portable cables. Order connectors separately.

*Note: For large 15 kV cables, additional splicing material may be needed.

3M™ Scotchcast™ Flexible Power Cable Splicing Kits 82-F and 82-BF Series

Inline Splice Kits 82-F1 and 82-F2

3M™ Scotchcast™ Cable Splicing Kits 82-F1 and 82-F2 are for inline splices on non-shielded, portable power cables and cords with copper conductors. They are rated up to 5 kV for single conductors and up to 1 kV or 600/2000 V for multiple conductors. The kits are designed to be used with inline compression (crimp) connectors. The 82-F1 and 82-F2 molds are removable.



3M™ Scotchcast™ Inline Splice Kits 82-F1 and 82-F2

Agencies

The 82-F Series Splicing Kits are permanent splices recognized by the Mine Safety and Health Administration (MSHA) ([07-KA060002-MSHA](#)) and the American Bureau of Shipping (ABS) Approval 93-DL11873-X.

Each kit contains:

(Each kit makes one splice)

- One-piece removable mold
- Tape for sealing mold ends
- Abrasive cloth
- 3M Scotchcast Compound 2131 in closed mixing pouch

Kit Number		Voltage Rating	Conductor Range AWG (mm ²)	Cable O.D. Range Inches (mm)	Number of Conductors	Connection Maximum O.D. Inches (mm)	
82-F1		5 kV	6-1/0 (16-50)	0.25-0.80 (6-20)	1	0.62 (16) connector	MSHA approved
		1 kV (600/2000 V)*	**	0.25-0.80 (6-20)	Multi	0.90 (23) connector bundle	MSHA approved
82-F2		5 kV	2/0-4/0 (70-95)	0.80-1.20 (20-30)	1	0.82 (21) connector	MSHA approved
		1 kV (600/2000 V)*	**	0.80-1.20 (20-30)	Multi	1.30 (33) connector bundle	MSHA approved

* Mine portable cable rating.

** Base selection on cable O.D. range.

Flexible Power Cable Tap Splice Kit 82-BF1

3M™ Scotchcast™ Splice Kit 82-BF1 is for tap splices on non-shielded portable power cables and cords with copper conductors rated up to 1 kV. It can be used on single-conductor or multiple-conductor cables using a compression (crimp) “C” tap connector.



3M™ Scotchcast™ Cable Tap Splice Kit 82-BF1

Agencies

82-BF1 molds are removable. The 82-BF1 splice kit creates a permanent splice as recognized by the Mine Safety and Health Administration (MSHA) ([07-KA060002-MSHA](#)) and the American Bureau of Shipping (ABS) Approval 93-DL11873-X.

Each kit contains:

(Each kit makes one splice)

- One-piece removable mold
- Tape for sealing mold ends
- Abrasive cloth
- 3M Scotchcast Flame Retardant Compound 2131 in closed mixing pouch

Kit Number		Voltage Rating	Conductor Range	Cable O.D. Range Inches (mm)	Number of Conductors	
82-BF1		1 kV (600/2000 V)*	Up to 1/0	0.25-0.80 (6-20)	1	MSHA approved
		1 kV	**	0.25-0.80 (6-20)	Multi	MSHA approved

* Mine portable cable rating.

** Base selection on cable O.D. range.

3M™ Scotchcast™ Mine and Portable Cable Jacket Repair Kits M Series

Jacket Repair Kits M-20, M-30 & M-40

3M™ Scotchcast™ M-series kits are designed to make permanent, shop-quality low- and high-voltage cable jacket repair and splices without vulcanizing. The M-series also features a versatile wraparound mold which maintains excellent physical and electrical properties in extreme conditions.

In addition to jacket repairing, the kits can be used for repairing damaged insulations and making partial or complete cable splices by using standard Scotch® Splicing Tapes (see page 7) and flame retardant 3M™ Scotchcast™ Flame Retardant Compound 2131. Complete instructions are included with each kit.

Agencies

Meets MSHA approval ([07-KA060002-MSHA](#)) when used with 3M™ Scotchcast™ Compound 2131

Each kit contains:

- Reusable wraparound mold
- Pouring spouts and enough spacer web to make ten cable jacket repairs

3M™ Scotchcast™ Compound 2131 can be used as a jacket replacement compound. **Scotchcast Compound 2131 is not included in the above kits and is purchased separately.**

Ordering Information

Kit Number		Cable O.D. Range Inches (mm)		Maximum Repair Length Inches (mm)		
M-20		1.6 - 2.5	(41-63)	13 - 15*	(330-381)	MSHA approved
M-30		1.85 - 4.0	(47-102)	20	(508)	MSHA approved
M-40		1.85 - 6.0	(47-152)	32	(813)	MSHA approved

*13" for SHD-GC; 15" for 600/2000 V

Ordering Information

Product Number		Size	Weight/Volume
2131		B	7.5 oz (213 g)/10.6 cu. in. (175 cu. cm)
2131		C	21.5 oz (612 g)/30.6 cu. in. (502 cu. cm)

Replacement Materials

F-10 Funnels and SW-40 Spacer
Available as separate items.



3M™ Scotchcast™ Flame Retardant Compound 2131

2131 Flame Retardant Compound

3M™ Scotchcast™ Compound 2131 is a flame retardant compound designed primarily to replace the cable jacket when splicing or repairing mine and portable cable. The self-contained mixing and pouring bag makes on-site repairs easy and convenient. Plus the unique formulation bonds to all modern cable jackets yet remains flexible. The 3M™ Scotchcast™ Compound 2131 provides excellent multi-purpose moisture sealing and is ideal for plugs and cable crotch seals. Compound 2131 is used in the 3M™ Scotchcast™ 8096 Series, M-series Kits and 82F(BF) Series Kits.

Compound 2131 for M-20, M-30, M40 Jacket Repair Kits

Nominal		Recommended Number of C bags per repair Nominal Repair Length		
Cable O.D. (in.)	(mm)	8 Inches (203 mm)	16 Inches (406 mm)	32 Inches (813 mm)
1.6	(41)	1	2	3
2.0	(51)	1	2	4
2.4	(61)	2	3	5
2.8	(71)	2	4	7
3.2	(81)	3	5	9
3.6	(91)	3	6	11
4.0	(102)	4	7	13

3M™ Scotchcast™ Re-Enterable Electrical Insulating Resin 2123

3M™ Scotchcast™ Re-enterable Electrical Resin 2123 is a soft, two-part polybutadiene resin encapsulant designed especially for re-enterable splice protection. It is formulated for virtually every electrical application requiring a soft, re-enterable resin with good handling and performance characteristics. This resin is also used as the insulating material for cable splices operating at 1000 volts, and is rated for continuous use at 194°F (90°C) with an overload rating at 266°F (130°C). It may be stocked to cover most re-enterable resin needs, ending the need for multiple encapsulant inventories.

Scotchcast Resin 2123 is formulated with excellent wetting properties and low viscosity. The resin flows well even at low temperatures, filling the enclosure and minimizing voids. Scotchcast Resin 2123 is packaged in a convenient two-part closed mixing pouch.

Product Number		Package Description	Weight, oz (g)	Volume, in ³ (cm ³)	Containers per Case
2123C		2-part pouch	12.3 (350)	23.7 (338,3)	10
2123D		2-part pouch	21.2 (600)	40.6 (665,3)	10

3M™ Heat Shrink Tubing

3M™ Heat Shrink Tubing ITCSF/IMCSF

Flame Retardant ITCSF Cable Sleeves

3M™ Heat Shrinkable Cable Sleeves ITCSF, rated to 1 kV, provide reliable performance for electrical splices, connections and terminations, as well as mechanical and environmental protection. ITCSF Thick-Wall Cable Sleeves are made from flame retardant polyolefin. They are durable and split resistant and provide strain relief and rapid installation. The 48" sleeves come standard with a factory-applied adhesive/sealant. Sleeves are supplied in black only. **P-154-13 MSHA**. ABS Certificate.

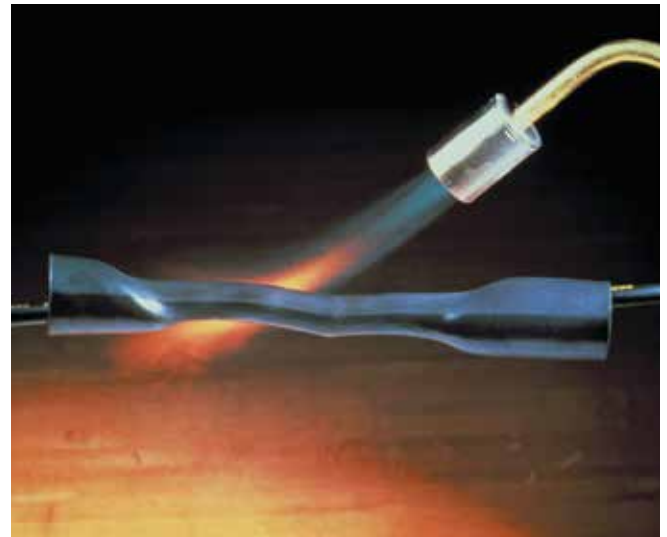
Other cut lengths available upon request.

Flame Retardant IMCSF Cable Sleeves

3M™ Heat Shrinkable Medium-Wall Cable Sleeves IMCSF are made of flame-retardant polyolefin. Use for 1 kV splices, connections, terminations and re-jacketing. They protect against mechanical and environmental dangers providing excellent abrasion, corrosion and chemical resistance. IMCSF sleeves have greater flexibility than the ITCSF, our thicker-walled version. Installation of these fast-shrinking sleeves is easy with little training needed.

The 48" lengths come standard with a factory-applied adhesive/sealant. Sleeves are supplied in black only. **P-154-13 MSHA**. ABS Certificate 96NY595-X.

Other cut lengths available upon request.



Product Number		Typical Cable Range	Expanded/Recovery I.D.	
ITCSF-0400-48		12-6 AWG (4-10 mm ²)	0.40/0.15" (10,2/3,8 mm)	MSHA approved
ITCSF-0800-48		8-1/0 AWG (10-50 mm ²)	0.80/0.20" (20,3/5,1 mm)	MSHA approved
ITCSF-1100-48		2-4/0 AWG (35-95 mm ²)	1.10/0.37" (27,9/9,4 mm)	MSHA approved
ITCSF-2000-48		250-750 kcmil (150-300 mm ²)	2.00/0.65" (50,8/16,5 mm)	MSHA approved
ITCSF-4500-48		1500-2500 kcmil	4.50"/1.50" (114,3/38,1 mm)	MSHA approved

IMCSF products are available in the same lengths with the same range and inside diameter as ITCSF products

3M™ HDCW Wraparound Heat Shrink Cable Repair Sleeves

3M™ HDCW Heat Shrink Wraparound Cable Repair Sleeves are designed to quickly repair damaged cable jacketing. They may also be used to re-jacket inline splices. 3M HDCW wrap sleeves can be used as insulation material on cable and splices up to 1000 volts and as jacket repair material on cable up to 35 kV. The design of the wrap sleeve allows it to be installed in tight spaces with ordinary heating equipment such as a torch.

The 3M HDCW cable repair is made from modified cross-linked polyolefin, with a hot-melt adhesive liner on the inner side of the sleeve. Upon heating, the sleeve shrinks and the adhesive melts, creating a water-tight bond between the sleeve and the cable. 3M HDCW Wraparound Cable Repair Sleeves meet ANSI C119.1 requirements. A corrosion proof metal channel is used to close the sleeve during installation.



3M™ HDCW Wraparound Heat Shrink Cable Repair Sleeves

3M HDCW wrap sleeves are stocked in four lengths and five diameters. Other cut lengths are available upon request.

Application Guide and Ordering Information for 3M HDCW Wraparound Heat Shrink Cable Repair Sleeves

Part Number	Length in. (mm)	600/1000V Conductor Size (AWG or MCM)	Jacket Repair Use Range Max./Min. in. (mm)	Sleeve Dimensions	
				Expanded Diameter in. (mm)	Reserved Diameter in. (mm)
HDCW 35/10-250	9.8" (250 mm)	#8-2/0	1.38-0.39" (35-10 mm)	1.97" (50 mm)	0.32" (8 mm)
HDCW 35/10-1200	47.2" (1200 mm)	#8-2/0	1.38-0.39" (35-10 mm)	1.97" (50 mm)	0.32" (8 mm)
HDCW 55/15-500	19.7" (500 mm)	3/0-400	2.17-0.59" (55-15 mm)	2.95" (75 mm)	0.51" (13 mm)
HDCW 55/15-1200	47.2" (1200 mm)	3/0-400	2.17-0.59" (55-15 mm)	2.95" (75 mm)	0.51" (13 mm)
HDCW 80/25-750	29.5" (750 mm)	500-1000	3.15-0.98" (80-25 mm)	3.94" (100 mm)	0.91" (23 mm)
HDCW 80/25-1200	47.2" (1200 mm)	500-1000	3.15-0.98" (80-25 mm)	3.94" (100 mm)	0.91" (23 mm)
HDCW 110/30-1000	39.4" (1000 mm)	1000-2000	4.33-1.18" (110-30 mm)	5.20" (132 mm)	0.98" (25 mm)
HDCW 110/30-1200	47.2" (1200 mm)	1000-2000	4.33-1.18" (110-30 mm)	5.20" (132 mm)	0.98" (25 mm)
HDCW 140/40-1000	39.4" (1000 mm)	N/A	5.39-1.38" (137-35 mm)	5.71" (145 mm)	1.26" (32 mm)
HDCW 140/40-1200	47.2" (1200 mm)	N/A	5.51 - 1.57" (140-40 mm)	5.71" (145 mm)	1.26" (32 mm)

3M™ Cleaners and Aerosols

3M™ Novec™ Aerosol Cleaners

With non-flammable Novec Aerosols, you get the best of both worlds.

Fast, effective cleaning on a wide range of soils – plus outstanding safety and environmental properties

3M™ Novec™ Aerosol Cleaners are a family of non-flammable, high-performance cleaning solvents in convenient aerosol form. They combine effective cleaning with a wide margin of workplace safety and a favorable environmental profile, to help you meet today's electronics and precision cleaning challenges. Novec aerosols are non-corrosive, non-conductive, and penetrate deep into tight clearances, making them particularly suited for many critical cleaning applications, including electronics, electro-mechanical devices, instrumentation, electrical contacts, connectors and more.



3M™ Novec™ Aerosol Cleaners

Selection Guide



	Novec Contact Cleaner	Novec Contact Cleaner Plus	Novec Contact Cleaner/Lubricant	Novec Electronic Degreaser	Novec Flux Remover
Cleaning strength	Light Duty	Medium Duty	Medium Duty	Heavy Duty	Heavy Duty
Plastic Compatibility	Plastic-safe	Plastic-safe	Plastic-safe	May damage ABS, PS, acrylic and polycarbonate	May damage ABS, PS, acrylic and polycarbonate
Lubricant	None	None	Standard Based	None	None
Cleaning Performance					
Particulate	+++	+++	+++	+++	+++
Fluorinated oils	+++	+++	+++	++	++
Light Oils	+	++	++	+++	+++
Heavy oils and greases	-	-	-	+++	+++
Hydraulic fluid	+	++	++	+++	+++
Rosin-based Flux	-	-	-	++	+++
No-clean flux	-	-	-	++	++
Lead-free flux	-	-	-	++	+++

Rating Key: +++ Excellent ++ Very Good + Moderate - Not Recommended

3M™ Cable Cleaning Products CC Series

A safer solution for tough cleaning jobs

Non-conducting

3M CC Series cable cleaning kits are designed to clean contaminants off cables prior to installing a termination or splice. The CC-2 and CC-3 kits contain 3 soft wipes with solvent that are easy to wrap around the cable insulation to thoroughly clean it. The CC-2-Dry kit contains 3 soft wipes without solvent to help dry the cable if it becomes wet, or to help dry off the solvent faster.

The solvent is a colorless non-conducting liquid that emanates a light orange peel scent, and evaporates at approximately the same rate as water. It is designed to be compatible with all solid dielectric cable insulations – high and low density polyethylene, cross-linked polyethylene (XLP) and ethylene propylene rubber (EPR)- and will not cause tracking on insulation surfaces.

In addition, most plastic and rubber dielectrics will withstand the short term exposure to CC solvent that would be needed for surface cleaning.



3M™ Cable Cleaning Series

Ordering Information

Product Number		Product Name
CC-2		Cable Cleaning Preparation Kit 3 Pads and one Non-conductive grit abrasive cloth
CC-3		Cable Cleaning 3 Pad/Kit
CC-2-Dry		Cable Cleaning 3 Pad/Kit Dry Pads without Solvent



3M™ Portable Labeler Family

3M offers a family of portable labelers to tackle any number of jobs from DIY to industrial jobsite applications. All units are equipped with one-touch formatting keys that provide shortcuts for the most common formatting tasks.

The 3M™ Portable Labelers will print on a range of label materials, including heat shrink. The label cartridges are interchangeable and easy to install and remove. To get the job done quickly and effectively, choose 3M.

	PL100	PL150	PL200	PL300
One-Touch Formatting keys	X	X	X	X
"Favorites" key		X		
PC connectivity				X
Backlit LCD		X	X	X
Power cutter				X
Rubber protective bumper		X	X	X
Symbol library terms	50	80	100	250
Bar code capability		X	X	X
Stores 100 labels			X	X
Stores 1,000 labels				X
Prints on heat shrink	X	X	X	X
Supports labels up to 3/4"		X	X	X
Supports labels up to 1"				X
Offered as a kit		X	X	X
Rechargeable battery capable		X	X	X
Computer-style keyboard		X		



Manufactured by



3M™ Portable Labelers/Kits

Manufactured by

DYMO

Product Number		Description	Dimensions/Weight	Includes/Power Needed
PL100		3M PL100 Single Unit	10.5" x 6 x 2.1" 26.7 cm x 15.2 cm x 5.3 cm 0.6 lbs. (0,27 kg)	3M Portable Labeler PL100 1 User Guide and Quick Reference Guide 1 Refill Cartridge 0.5" Black/White Vinyl 6 AAA Batteries (not included)
PL150		3M PL150 Single Unit	7.0" x 4.6" x 2.25" 17.8 cm x 11.7 cm x 5.7 cm 2.0 lbs. (0,91 kg)	3M Portable Labeler PL150 1 User Guide and Quick Reference Guide 1 Refill Cartridge 0.5" Black/White Vinyl 6 AA Batteries (not included) or optional Lithium-Ion Battery Pack PL150-PL200-BAT (not included)
PL150K		3M PL150 Soft Case Kit	10.83" x 10.43" x 3.62" 27.5 cm x 26.5 cm x 9.2 cm 2.5 lbs. (1,14 kg)	3M Portable Labeler PL150 1 Quick Reference Guide 1 Refill Cartridge 0.5" Black/White Vinyl 3M Rechargeable Lithium-Ion Battery Pack PL150-PL200-BAT 3M AC Adaptor PL-ACPS 6 AA batteries (not included)
PL200		3M PL200 Single Unit	9.2" x 4.9" x 2.5" 23.4 cm x 12.5 cm x 6.35 cm 2.0 lbs. (0,91 kg)	3M Portable Labeler PL200 1 User Guide on CD-ROM and Quick Reference Guide 1 Refill Cartridge 0.75" (19 mm) White Vinyl 6 AA batteries (not included) or optional Lithium-Ion Battery Pack PL150-PL200-BAT (not included)
PL200K		3M PL200 Hard Case Kit	13.75" x 14.5" x 4.7" 34.9 cm x 36.8 cm x 11.9 cm 5.5 lbs. (2,49 kg)	3M Portable Labeler PL200 1 User Guide on CD-ROM and Quick Reference Guide 1 Refill Cartridge 0.5" (12 mm) White Polyester 1 Refill Cartridge 0.75" (19 mm) White Vinyl 3M Rechargeable Lithium-Ion Battery Pack PL150-PL200-BAT 6 AA Batteries (not included)
PL300		3M PL300 Single Unit	9.7" x 5.4" x 2.5" 24.6 cm x 13.7 cm x 6.4 cm 4.0 lbs. (1,81 kg)	3M Portable Labeler PL300 1 User guide on CD-ROM and quick reference guide 1 Refill cartridge 0.75" (19 mm) White vinyl 6 AA batteries (not included) or optional lithium ion rechargeable Battery Pack PL150-PL300-BAT (not included)
PL300K		3M PL300 Hard Case Kit	13.75" x 17.5" x 4.0" 34.9 cm x 44.5 cm x 10.2 cm 5.0 lbs. (2,27 kg)	3M Portable Labeler PL300 and Software 1 User Guide and Quick Reference Guide 1 Refill Cartridge 0.5" (12 mm) Black on White Polyester 1 Refill Cartridge 0.75" (19 mm) White Vinyl 3M Rechargeable Lithium-Ion Battery Pack PL300-BAT 6 AA Batteries (not included)

3M™ Portable Labeler Refill Cartridges

3M™ Portable Labeler Refill Cartridges are available in a choice of industrial-grade label materials for various surfaces and environments that resist UV, chemicals, water and oils. Labels are easy to load, print, and peel and are smear-, smudge-, and fade-resistant. Engineered to stick on challenging surfaces. Labels are available in vinyl, nylon, polyester, heat shrink, non-adhesive and self-laminating in various sizes.

High-Performance Label Options for the 3M™ Portable Labeler Family

		Vinyl	Nylon	Polyester	Heat Shrink	Non-Adhesive	Self-Laminating (300 Only)
Labels	Length	18.0'	11.5'	18.0'	5.0'	18.0'	18.0'
	Width	3/8," 1/2," 3/4," 1"	1/2," 3/4," 1"	1/4," 3/8," 1/2," 3/4," 1"	1/4," 3/8," 1/2," 3/4," 1"	1/4," 1/2"	1"
	Color						
	Outdoor						
Surfaces	Flat		X	X		X	
	Wiring		X		X		X
	Flag		X				
	Textured		X	X			
Resistance	UV			X	X		X
	Water			X	X		X
	Chemicals			X	X		X
	Oils			X	X		X

3M™ Portable Labeler Refill Cartridges (cont.)

Manufactured by



Product Number	Description	Compatibility	Color
Polyester			
PLP-BLK-WHT-1/4	Polyester Tape 0.25" (6 mm). Black Font. White Label.	PL150, PL200, PL300	Black
PLP-WHT-3/8	Polyester Tape 0.375" (9 mm). Black Font. White Label.	PL100, PL150, PL200, PL300	Black
PLP-WHT-1/2	Polyester Tape 0.5" (12 mm). Black Font. White Label.	PL100, PL150, PL200, PL300	Black
PLP-WHT-3/4	Polyester Tape 0.75" (19 mm). Black Font. White Label.	PL150, PL200, PL300	Black
PLP-WHT-1	Polyester Tape 1" (24 mm). Black Font. White Label.	PL300	Black
PLP-BLK-CLR-1/4	Polyester Tape 0.25" (6 mm). Black Font. Clear Label.	PL150, PL200, PL300	Black
PLP-CLR-3/8	Polyester Tape 0.375" (9 mm). Black Font. Clear Label.	PL100, PL150, PL200, PL300	Black
PLP-CLR-1/2	Polyester Tape 0.5" (12 mm). Black Font. Clear Label.	PL100, PL150, PL200, PL300	Black
PLP-CLR-3/4	Polyester Tape 0.75" (19 mm). Black Font. Clear Label.	PL150, PL200, PL300	Black
PLP-BLK-CLR-1	Polyester Tape 1" (24 mm). Black Font. Clear Label.	PL300	Black
PLP-BLK-MTL-1/4	Polyester Tape 0.25" (6 mm). Black Font. Metal Label.	PL150, PL200, PL300	Black
PLP-MTL-3/8	Polyester Tape 0.375" (9 mm). Black Font. Metal Label.	PL100, PL150, PL200, PL300	Black
PLP-MTL-1/2	Polyester Tape 0.5" (12 mm) Black Font. Metal Label.	PL100, PL150, PL200, PL300	Black
PLP-MTL-3/4	Polyester Tape 0.75" (19 mm). Black Font. Metal Label.	PL150, PL200, PL300	Black
PLP-BLK-MTL-1	Polyester Tape 1" (24 mm). Black Font. Metal Label.	PL300	Black
Heat Shrink			
PLHS-WHT-1/4	Heat Shrinking Tubing 0.25" (6 mm). Black Font. White Label.	PL150, PL200, PL300	Black
PLHS-WHT-3/8	Heat Shrinking Tubing 0.375" (9 mm). Black Font. White Label.	PL100, PL150, PL200, PL300	Black
PLHS-WHT-1/2	Heat Shrinking Tubing 0.5" (12 mm). Black Font. White Label.	PL100, PL150, PL200, PL300	Black
PLHS-WHT-3/4	Heat Shrinking Tubing 0.75" (19 mm). Black Font. White Label.	PL150, PL200, PL300	Black
PLHS-WHT-1	Heat Shrinking Tubing 1" (24 mm). Black Font. White Label.	PL300	Black
PLHS-YEL-1/4	Heat Shrinking Tubing 0.25" (6 mm). Black Font. Yellow Label.	PL150, PL200, PL300	Black
PLHS-YEL-3/8	Heat Shrinking Tubing 0.375" (9 mm). Black Font. Yellow Label.	PL100, PL150, PL200, PL300	Black
PLHS-YEL-1/2	Heat Shrinking Tubing 0.5" (12 mm). Black Font. Yellow Label.	PL100, PL150, PL200, PL300	Black
PLHS-YEL-3/4	Heat Shrinking Tubing 0.75" (19 mm). Black Font. Yellow Label.	PL150, PL200, PL300	Black
Non-Adhesive			
PLNA-WHT-1/4	Non-Adhesive Tape 0.25" (6 mm). Black Font. White Label.	PL150, PL200, PL300	Black
PLNA-WHT-1/2	Non-Adhesive Tape 0.5" (12 mm). Black Font. White Label.	PL100, PL150, PL200, PL300	Black
Flexible Nylon			
PLFN-WHT-1/2	Flexible Nylon Tape 0.5" (12 mm). Black Font. White Label.	PL100, PL150, PL200, PL300	Black
PLFN-WHT-3/4	Flexible Nylon Tape 0.75" (19 mm). Black Font. White Label.	PL150, PL200, PL300	Black
PLFN-WHT-1	Flexible Nylon Tape 1" (24 mm). Black Font. White Label.	PL300	Black
PLFN-YEL-1/2	Flexible Nylon Tape 0.5" (12 mm). Black Font. Yellow Label.	PL100, PL150, PL200, PL300	Black
PLFN-YEL-3/4	Flexible Nylon Tape 0.75" (19 mm). Black Font. Yellow Label.	PL150, PL200, PL300	Black
PLFN-YEL-1	Flexible Nylon Tape 1" (24 mm). Black Font. Yellow Label.	PL300	Black

3M™ Portable Labeler Refill Cartridges (cont.)

Manufactured by



Product Number	Description	Compatibility	Color
Self-Laminating			
PLSL-WHT-1	Self-Laminating Tape 1" (24 mm). Black Font. White Label.	PL300	Black
Vinyl			
PLV-WHT-BLK-3/8	Vinyl Tape 0.375" (9 mm). White Font. Black Label.	PL100, PL150, PL200, PL300	White
PLV-WHT-BLK-1/2	Vinyl Tape 0.5" (12 mm). White Font. Black Label.	PL100, PL150, PL200, PL300	White
PLV-WHT-BLK-3/4	Vinyl Tape 0.75" (19 mm). White Font. Black Label.	PL150, PL200, PL300	White
PLV-WHT-BLK-1	Vinyl Tape 1" (24 mm). White Font. Black Label.	PL300	White
PLV-WHT-RED-1/2	Vinyl Tape 0.5" (12 mm). White Font. Red Label.	PL100, PL150, PL200, PL300	White
PLV-WHT-RED-3/4	Vinyl Tape 0.75" (19 mm). White Font. Red Label.	PL150, PL200, PL300	White
PLV-WHT-RED-1	Vinyl Tape 1" (24 mm). White Font. Red Label.	PL300	White
PLV-WHT-GRN-1/2	Vinyl Tape 0.5" (12 mm). White Font. Green Label.	PL100, PL150, PL200, PL300	White
PLV-WHT-GRN-3/4	Vinyl Tape 0.75" (19 mm). White Font. Green Label.	PL150, PL200, PL300	White
PLV-WHT-GRN-1	Vinyl Tape 1" (24 mm). White Font. Green Label.	PL300	White
PLV-WHT-BLU-1/2	Vinyl Tape 0.5" (12 mm). White Font. Blue Label.	PL100, PL150, PL200, PL300	White
PLV-WHT-BLU-3/4	Vinyl Tape 0.75" (19 mm). White Font. Blue Label.	PL150, PL200, PL300	White
PLV-WHT-BLU-1	Vinyl Tape 1" (24 mm). White Font. Blue Label.	PL300	White
PLV-WHT-PUR-1/2	Vinyl Tape 0.5" (12 mm). White Font. Purple Label.	PL100, PL150, PL200, PL300	White
PLV-WHT-PUR-3/4	Vinyl Tape 0.75" (19 mm). White Font. Purple Label.	PL150, PL200, PL300	White
PLV-WHT-PUR-1	Vinyl Tape 1" (24 mm). White Font. Purple Label.	PL300	White
PLV-WHT-BRN-1/2	Vinyl Tape 0.5" (12 mm). White Font. Brown Label.	PL100, PL150, PL200, PL300	White
PLV-WHT-BRN-3/4	Vinyl Tape 0.75" (19 mm). White Font. Brown Label.	PL150, PL200, PL300	White
PLV-WHT-BRN-1	Vinyl Tape 1" (24 mm). White Font. Brown Label.	PL300	White
PLV-BLK-GRY-1/2	Vinyl Tape 0.5" (12 mm). Black Font. Gray Label.	PL100, PL150, PL200, PL300	Black
PLV-BLK-GRY-3/4	Vinyl Tape 0.75" (19 mm). Black Font. Gray Label.	PL150, PL200, PL300	Black
PLV-BLK-GRY-1	Vinyl Tape 1" (24 mm). Black Font. Gray Label.	PL300	Black
PLV-WHT-1/2	Vinyl Tape 0.5" (12 mm). Black Font. White Label.	PL100, PL150, PL200, PL300	Black
PLV-WHT-3/4	Vinyl Tape 0.75" (19 mm). Black Font. White Label.	PL150, PL200, PL300	Black
PLV-BLK-WHT-1	Vinyl Tape 1" (24 mm). Black Font. White Label.	PL300	Black
PLV-YEL-1/2	Vinyl Tape 0.5" (12 mm). Black Font. Yellow Label.	PL100, PL150, PL200, PL300	Black
PLV-YEL-3/4	Vinyl Tape 0.75" (19 mm). Black Font. Yellow Label.	PL150, PL200, PL300	Black
PLV-BLK-YEL-1	Vinyl Tape 1" (24 mm) Black Font. Yellow Label.	PL300	Black
PLV-ORG-1/2	Vinyl Tape 0.5" (12 mm). Black Font. Orange Label.	PL100, PL150, PL200, PL300	Black
PLV-ORG-3/4	Vinyl Tape 0.75" (19 mm). Black Font. Orange Label.	PL150, PL200, PL300	Black
PLV-BLK-ORG-1	Vinyl Tape 1" (24 mm). Black Font. Orange Label.	PL300	Black

3M™ Portable Labeler Embosser PLE

The 3M™ Portable Labeler Embosser PLE is tough enough to accompany you in the field and is easy-to-use. Since it can make labels on site that are capable of weathering harsh conditions, there's no need for time-consuming trips to an engraving shop. All you'll have to do is type, cut and apply.

Front Scissor Cut-Off **Yes**

Built-In Hole Punching Device **Yes**



Portable Labeler Embosser PLE

Order No.	Description/Kit Contents	Imprint Size	Length	Product Type	Min. Order	Case Qty.
PLE	1 3M™ Portable Labeler Embosser PLE – Metal Tape; 1 Reverse image wheel; 1 Roll 0.5" (12 mm) x 12' (4,8 m); 1 Roll 0.5" (12 mm) x 21' (6,4 m); 1 Carrying case; 1 Instruction manual	0.5" (12 mm) wide		Embosser	1	3
PLE-ALA-1/2	Aluminum tape for 3M™ Portable Labeler Embosser PLE. 0.5" (12 mm) Aluminum with adhesive.	—	12'	Tape	10	100
PLE-ALNA-1/2	Aluminum tape for 3M™ Portable Labeler Embosser PLE. 0.5" (12 mm) Aluminum with no adhesive.	—	16'	Tape	10	100
PLE-SSNA-1/2	Stainless steel tape for 3M™ Portable Labeler Embosser PLE. 0.5" (12 mm) Stainless steel tape with no adhesive.	—	21'	Tape	10	100



3M™ PanelSafe™ Lockout System

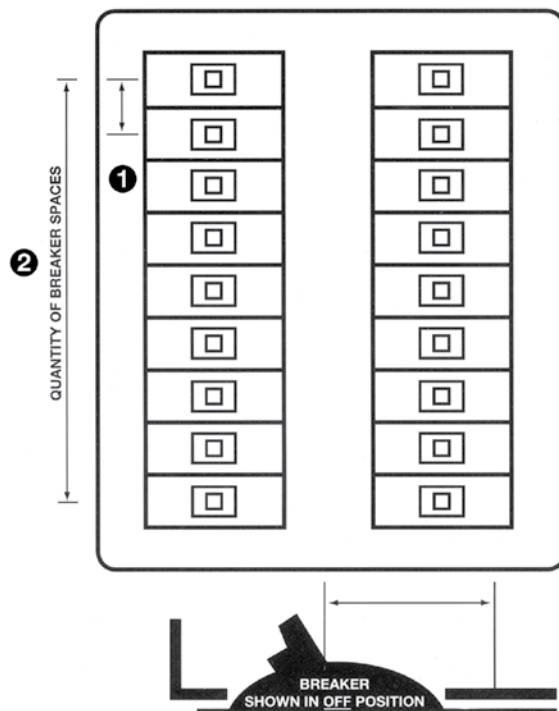
The 3M™ PanelSafe™ Lockout System reliably isolates electrical circuits, effectively "locking out" the circuit for the servicing and maintenance of machines, lighting and equipment.

Determining the correct 3M™ PanelSafe™ Unit

Step 1: Measure the distance between breaker space center lines (on diagram). Reference chart 1 for first two digits of product numbers.

Step 2: Count the number of breaker spaces on one side of the load center (on diagram). These are the last two digits of your product number. Examples of various load centers: 3/4" spacing between breakers and 42 circuits = 07 (designation for 3/4") 21 (number of circuits down one side of the load center). In this case, the part number for the required unit is PS-0721. 1" spacing between breakers and 18 circuits = 10 (designation for 1") 09 (number of circuits down one side of the load center). In this case, the part number for the required unit is PS-1009.

Step 3: Visually check the configuration of the breakers and the surface that the PanelSafe is to be mounted upon. If the surface has any irregular shapes or the breakers use a non-traditional setup (traditional 2 rows with a metal center strip as shown on cover), please order the correct shims or accessories shown in this brochure.



Standard 3M™ PanelSafe™ Unit

A standard 3M PanelSafe unit varies in length, number of slots, and covers according to part number required. Each 3M PanelSafe unit is packaged to include: 1 pin holder; 2 one way pins; 1 two way pin; 1 hook pin; assembly screws and instruction sheet.

How to Read 3M Panel Safe Product Numbers

PanelSafe—PS— **07** **03**

Breaker Spacing
(measurement ①)

Number of Breaker
Slots on one side
(measurement ②)

07 = 3/4"

03 = 3 slots

10 = 1"

04 = 4 slots

12 = 1 1/4"

05 = 5 slots

13 = 1 3/8"

↓

15 = 1 1/2"

21 = 21 slots

The first two digits correspond to the breaker spacing and the last two digits correspond to the number of breaker slots.

3M™ PanelSafe™ Lockout System

3M™ PanelSafe™ Lockout system reliably isolates electrical circuits, effectively "locking out" the circuit for the servicing and maintenance of machines, lighting and equipment. The use of 3M™ PanelSafe™ increases safety while helping meet applicable OSHA regulations and reducing costs in such areas as workman's compensation claims, insurance claims and fewer federal fines.

Unit Contents:

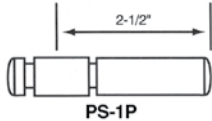
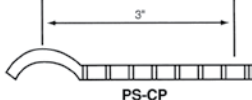
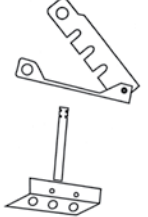
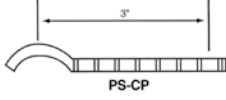
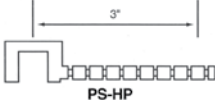
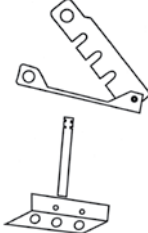
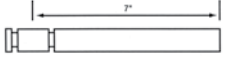
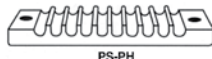
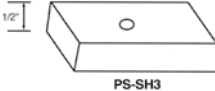
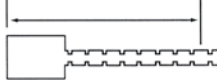
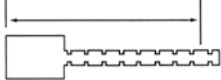
- 1 Pin holder
- 2 One-way pins
- 1 Two-way pin
- 1 Hook pin
- Assembly screws
- Instruction sheet



3M™ PanelSafe™ Lockout System

Product Name		Item Number	Spacing	Slots	Units per Case
3M™ PanelSafe™ Lockout System PS-1504		PS-1504	1.5"	4	1
3M™ PanelSafe™ Lockout System PS-1505		PS-1505	1.5"	5	1
3M™ PanelSafe™ Lockout System PS-1507		PS-1507	1.5"	7	1
3M™ PanelSafe™ Lockout System PS-1508		PS-1508	1.5"	8	1
3M™ PanelSafe™ Lockout System PS-1510		PS-1510	1.5"	10	1
3M™ PanelSafe™ Lockout System PS-1511		PS-1511	1.5"	11	1
3M™ PanelSafe™ Lockout System PS-1512		PS-1512	1.5"	12	1
3M™ PanelSafe™ Lockout System PS-1513		PS-1513	1.5"	13	1
3M™ PanelSafe™ Lockout System PS-1514		PS-1514	1.5"	14	1
3M™ PanelSafe™ Lockout System PS-1207		PS-1207	1.25"	7	1
3M™ PanelSafe™ Lockout System PS-1216		PS-1216	1.25"	16	1
3M™ PanelSafe™ Lockout System PS-1217		PS-1217	1.25"	17	1
3M™ PanelSafe™ Lockout System PS-1219		PS-1219	1.25"	19	1
3M™ PanelSafe™ Lockout System PS-1305		PS-1305	1.375"	5	1
3M™ PanelSafe™ Lockout System PS-1309		PS-1309	1.375"	9	1
3M™ PanelSafe™ Lockout System PS-1310		PS-1310	1.375"	10	1
3M™ PanelSafe™ Lockout System PS-1312		PS-1312	1.375"	12	1
3M™ PanelSafe™ Lockout System PS-1314		PS-1314	1.375"	14	1
3M™ PanelSafe™ Lockout System PS-1316		PS-1316	1.375"	16	1
3M™ PanelSafe™ Lockout System PS-1003		PS-1003	1"	3	1
3M™ PanelSafe™ Lockout System PS-1006		PS-1006	1"	6	1
3M™ PanelSafe™ Lockout System PS-1008		PS-1008	1"	8	1
3M™ PanelSafe™ Lockout System PS-1009		PS-1009	1"	9	1
3M™ PanelSafe™ Lockout System PS-1010		PS-1010	1"	10	1
3M™ PanelSafe™ Lockout System PS-1012		PS-1012	1"	12	1
3M™ PanelSafe™ Lockout System PS-1014		PS-1014	1"	14	1
3M™ PanelSafe™ Lockout System PS-1015		PS-1015	1"	15	1
3M™ PanelSafe™ Lockout System PS-1018		PS-1018	1"	18	1
3M™ PanelSafe™ Lockout System PS-1021		PS-1021	1"	21	1
3M™ PanelSafe™ Lockout System PS-0703		PS-0703	0.75"	3	1
3M™ PanelSafe™ Lockout System PS-0709		PS-0709	0.75"	9	1
3M™ PanelSafe™ Lockout System PS-0710		PS-0710	0.75"	10	1
3M™ PanelSafe™ Lockout System PS-0713		PS-0712	0.75"	12	1
3M™ PanelSafe™ Lockout System PS-0716		PS-0716	0.75"	16	1
3M™ PanelSafe™ Lockout System PS-0721		PS-0721	0.75"	21	1
3M™ PanelSafe™ Lockout System PS-0708		PS-0708	0.75"	8	1
3M™ PanelSafe™ Lockout System PS-0715		PS-0715	0.75"	15	1
3M™ PanelSafe™ Lockout System PS-0720		PS-0720	0.75"	20	1

3M™ PanelSafe™ Lockout System Accessories

	PS-1P	PS-1P-B	PS-2P	PS-2P-B
				
Product Name	3M™ PanelSafe™ 1 Way Pin PS-1P	3M™ PanelSafe™ 1 Way Pin PS-1P-B, Bulk	3M™ PanelSafe™ 2 Way Pin PS-2P	3M™ PanelSafe™ 2 Way Pin PS-2PB, Bulk
Description	One-way pin used to lockout an individual circuit located on either the left or right side of the panel.	One-way pin used to lockout an individual circuit located on either the left or right side of the panel.	Two-way pin used to lockout two circuits directly opposite each other.	Two-way pin used to lockout two circuits directly opposite each other.
Items per Case	5 	15 	5 	15 
	PS-CP	PS-HP	PS-MB	PS-MP
				
Product Name	3M™ PanelSafe™ Cup Pin PS-CP	3M™ PanelSafe™ Hook Pin PS-HP	3M™ PanelSafe™ Main Breaker Lockout PS-MB	3M™ PanelSafe™ Pin PS-MP
Description	The cup pin is used to secure "on" individual circuits (i.e. dedicated circuits) located on either the left or right side of the panel. 5 per package	The hook pin can be used to secure "on" individual circuits (i.e. dedicated passive circuits), or to lockout individual circuits from either the left or right side of the panel.	When a main breaker lockout cannot be directly attached to the dead front because of extended breaker casing, a pair of expanding brackets must be used. Expanding brackets for PS-MB are sold in pairs only.	Used in conjunction with the expanding bracket, a brace that attaches to the bracket which is then expanded and attached to the insides of both sides of the panel. For PS-MB.
Items per Case	1 	5 	1 Pair 	15 
	PS-PH	PS-SH3	PS-SP	PS-SP-B
				
Product Name	3M™ PanelSafe™ Pin Holder PSPH	3M™ PanelSafe™ Shim PS-SH3, 1/2 inch	3M™ PanelSafe™ Spade Pin PSSP	3M™ PanelSafe™ Spade Pin PS-SPB, Bulk
Description	Stores all pins, (except main breaker pin) at each panel location for easy access when lockout functions are required.	On distribution panels where the body of each breaker extends out beyond the level of the dead front. The 1/2" shim is used to raise the surface where a 3M™ PanelSafe™ unit is mounted, level with the body of each breaker. Available only in pairs.	A spade pin is used to lockout on either the left or right side of the panel when the measured distance from the center line of the dead front to the max position on the breaker handle in the off position is greater than 2 1/2".	A spade pin is used to lockout on either the left or right side of the panel when the measured distance from the center line of the dead front to the max position on the breaker handle in the off position is greater than 2 1/2".
Items per Case	5 	5 pair 	5 	15 

3M™ Scotchlok™ Copper Lugs and Connectors

3M™ Scotchlok™ Copper Connectors

The 3M™ Scotchlok™ Connectors 10000 and 11000 Series are used on copper conductors only. They are constructed of one-piece, seamless high-conductivity copper with standard and long barrel designs and are electro tin-plated to resist electrolytic corrosion. (UL 486A Listed.)

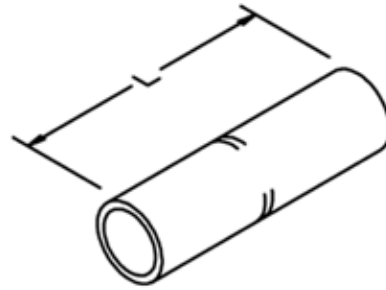
3M™ Scotchlok™ Copper Connectors 10000 Series, up to 35 kV

Connector Base Metal: Copper

For use with: Copper Conductor Only

Max. Voltage: 35 kV

Agency Approval: UL Listed 



Product Number	Stranded Conductor Size	Color Code	Length	Inside Diameter (I.D.)	Outside Diameter (O.D.)	Min. Order Qty.	Case Qty.	Barrel Style
10001	6 AWG	Blue	1.75" (44,4 mm)	0.20" (5,1 mm)	0.29" (7,4 mm)	50	50	Standard
10002	4 AWG	Gray	1.75" (44,4 mm)	0.25" (6,4 mm)	0.34" (8,6 mm)	50	50	Standard
10003	2 AWG	Brown	1.88" (47,7 mm)	0.31" (7,8 mm)	0.42" (10,6 mm)	25	25	Standard
10004	1 AWG	Green	1.88" (47,7 mm)	0.36" (9,1 mm)	0.46" (11,7 mm)	10	10	Standard
10005	1/0 AWG	Pink	1.88" (47,7 mm)	0.39" (10,0 mm)	0.51" (13,0 mm)	10	10	Standard
10006	2/0 AWG	Black	2.00" (50,8 mm)	0.44" (11,2 mm)	0.56" (14,2 mm)	10	10	Standard
10007	3/0 AWG	Orange	2.13" (54,0 mm)	0.49" (12,4 mm)	0.62" (15,7 mm)	10	10	Standard
10008	4/0 AWG	Purple	2.13" (54,0 mm)	0.55" (14,0 mm)	0.69" (17,4 mm)	10	10	Standard
10009	250 kcmil	Yellow	2.25" (57,2 mm)	0.60" (15,1 mm)	0.75" (19,1 mm)	3	3	Standard
10010	300 kcmil	White	2.25" (57,2 mm)	0.65" (16,5 mm)	0.81" (20,7 mm)	3	3	Standard
10011	350 kcmil	Red	2.38" (60,4 mm)	0.70" (17,8 mm)	0.88" (22,2 mm)	3	3	Standard
10014	500 kcmil	Brown	2.88" (73,2 mm)	0.84" (21,2 mm)	1.06" (27,0 mm)	3	3	Standard
10019	750 kcmil	Black	3.38" (85,8 mm)	1.03" (26,2 mm)	1.30" (33,0 mm)	3	3	Standard
10024	1000 kcmil	White	3.88" (98,5 mm)	1.17" (29,8 mm)	1.50" (38,1 mm)	3	3	Standard

3M™ Scotchlok™ Copper Connectors 11000 Series, up to 35 kV

Product Number	Stranded Conductor Size	Color Code	Length	Inside Diameter (I.D.)	Outside Diameter (O.D.)	Min. Order Qty.	Case Qty.	Barrel Style
11006	2/0 AWG	Black	3.13" (79,4 mm)	0.44" (11,2 mm)	0.56" (14,2 mm)	10	10	Long
11007	3/0 AWG	Orange	3.13" (79,4 mm)	0.49" (12,4 mm)	0.62" (15,7 mm)	10	10	Long
11008	4/0 AWG	Purple	3.38" (85,8 mm)	0.55" (13,9 mm)	0.69" (17,4 mm)	10	10	Long
11009	250 kcmil	Yellow	3.38" (85,8 mm)	0.60" (15,1 mm)	0.75" (19,1 mm)	3	3	Long
11010	300 kcmil	White	4.13" (104,8 mm)	0.65" (16,5 mm)	0.81" (20,7 mm)	3	3	Long
11011	350 kcmil	Red	4.13" (104,8 mm)	0.70" (17,8 mm)	0.88" (22,2 mm)	3	3	Long
11014	500 kcmil	Brown	4.63" (117,5 mm)	0.84" (21,3 mm)	1.06" (27,0 mm)	3	3	Long
11019	750 kcmil	Black	5.88" (149,3 mm)	1.03" (26,2 mm)	1.30" (33,0 mm)	3	3	Long
11024	1000 kcmil	White	6.13" (155,6 mm)	1.17" (29,8 mm)	1.50" (38,1 mm)	3	3	Long

3M™ Scotchlok™ Copper Lugs

The 3M™ Scotchlok™ Copper Lugs 30000 and 31000 Series are a family of one hole, standard and long barrel lugs designed for terminating copper conductors. Each lug is tin plated to resist corrosion and can be installed with standard industry tools. Chamfered ends ensure ease of conductor insertion.

3M™ Scotchlok™ Copper Lugs 30000 Series, up to 35 kV

O.D. = Outside Diameter; (B) = Barrel Length (B); (C) = Center of Hole to End of Pad (C); (L) = Length (L);

(P) = Pad Length (P); (W) = Pad Width (W)

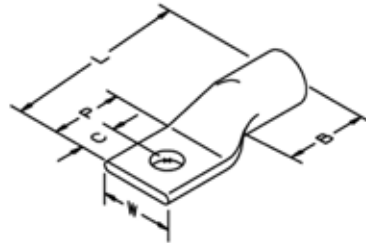
No. of Holes: One Hole

Lug Base Metal: Copper

For use with: Copper Conductor Only

Dimension (C): 0.37" (9,5 mm), *0.53" (13,4 mm)

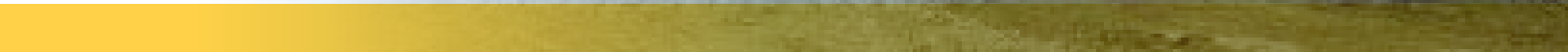
Agency Approval: UL Listed 



Product Number	Wire & Stud Size	Color	O.D.	(B)	(L)	(P)	(W)	Min/Cs Quantity	Barrel Style
30014	6 AWG #10	Blue	0.29" (7,4 mm)	0.86" (21,8 mm)	1.78" (45,2 mm)	0.75" (19,1 mm)	0.43" (11,0 mm)	50	Standard
30015	6 AWG 1/4"	Blue	0.29" (7,4 mm)	0.86" (21,8 mm)	1.78" (45,2 mm)	0.75" (19,1 mm)	0.43" (11,0 mm)	50	Standard
30016	6 AWG 5/16"	Blue	0.29" (7,4 mm)	0.86" (21,8 mm)	1.78" (45,2 mm)	0.75" (19,1 mm)	0.50" (12,7 mm)	50	Standard
30018	4 AWG #10	Gray	0.34" (8,6 mm)	0.75" (19,1 mm)	1.94" (49,3 mm)	0.89" (22,6 mm)	0.48" (12,3 mm)	50	Standard
30019	4 AWG 1/4"	Gray	0.34" (8,6 mm)	0.75" (19,1 mm)	1.94" (49,3 mm)	0.89" (22,6 mm)	0.48" (12,3 mm)	50	Standard
30021	4 AWG 3/8"	Gray	0.34" (8,6 mm)	0.75" (19,1 mm)	1.94" (49,3 mm)	0.89" (22,6 mm)	0.59" (15,1 mm)	50	Standard
30022	2 AWG 1/4"	Brown	0.42" (10,6 mm)	0.81" (20,7 mm)	1.97" (50,0 mm)	0.89" (22,6 mm)	0.63" (15,9 mm)	25	Standard
30023	2 AWG 5/16"	Brown	0.42" (10,6 mm)	0.81" (20,7 mm)	1.97" (50,0 mm)	0.89" (22,6 mm)	0.63" (15,9 mm)	25	Standard
30024	2 AWG 3/8"	Brown	0.42" (10,6 mm)	0.81" (20,7 mm)	1.97" (50,0 mm)	0.89" (22,6 mm)	0.63" (15,9 mm)	25	Standard
30027	1 AWG 5/16"	Green	0.46" (11,7 mm)	0.81" (20,7 mm)	1.97" (50,0 mm)	0.75" (19,1 mm)	0.69" (17,5 mm)	10	Standard
30028	1 AWG 3/8"	Green	0.46" (11,7 mm)	0.81" (20,7 mm)	1.97" (50,0 mm)	0.75" (19,1 mm)	0.69" (17,5 mm)	10	Standard
30031	1/0 AWG 5/16"	Pink	0.51" (13,0 mm)	0.81" (20,7 mm)	2.16" (54,9 mm)	0.89" (22,6 mm)	0.75" (19,1 mm)	10	Standard
30032	1/0 AWG 3/8"	Pink	0.51" (13,0 mm)	0.81" (20,7 mm)	2.16" (54,9 mm)	0.89" (22,6 mm)	0.75" (19,1 mm)	10	Standard
30036	2/0 AWG 3/8"	Black	0.56" (14,2 mm)	0.87" (22,2 mm)	2.37" (60,2 mm)	1.11" (28,2 mm)	0.81" (20,7 mm)	10	Standard
30041*	3/0 AWG 1/2"	Orange	0.62" (15,8 mm)	0.94" (23,8 mm)	2.63" (66,8 mm)	1.11" (28,2 mm)	0.91" (23,1 mm)	10	Standard
30045*	4/0 AWG 1/2"	Purple	0.68" (17,4 mm)	0.97" (24,6 mm)	2.60" (65,9 mm)	1.11" (28,2 mm)	1.00" (25,4 mm)	10	Standard

3M™ Scotchlok™ Copper Lugs 31000 Series, up to 35 kV

SKU #	Wire & Stud Size	Color	O.D.	(B)	(C)	(L)	(P)	(W)	Min/Cs Qty	Barrel Style
31036	2/0 AWG 3/8"	Black	0.56" (14,2 mm)	1.44" (36,6 mm)	0.37" (9,5 mm)	2.84" (72,2 mm)	0.89" (22,6 mm)	0.81" (20,6 mm)	10	Long
31041	3/0 AWG 1/2"	Orange	0.62" (15,8 mm)	1.44" (36,5 mm)	0.53" (13,4 mm)	3.13" (79,5 mm)	1.11" (28,2 mm)	0.91" (23,0 mm)	10	Long
31045	4/0 AWG 1/2"	Purple	0.68" (17,4 mm)	1.56" (39,7 mm)	0.53" (13,4 mm)	3.32" (84,4 mm)	1.11" (28,2 mm)	1.00" (25,4 mm)	10	Long
31049	250 kcmil 1/2"	Yellow	0.75" (19,1 mm)	1.50" (38,1 mm)	0.53" (13,4 mm)	3.38" (85,8 mm)	1.11" (28,2 mm)	1.11" (28,2 mm)	10	Long
31053	300 kcmil 1/2"	White	0.81" (20,6 mm)	1.94" (49,2 mm)	0.53" (13,4 mm)	3.78" (96,0 mm)	1.11" (28,2 mm)	1.22" (30,9 mm)	10	Long
31056	350 kcmil 1/2"	Red	0.88" (22,4 mm)	1.94" (49,2 mm)	0.53" (13,4 mm)	3.84" (97,5 mm)	1.11" (28,2 mm)	1.27" (32,2 mm)	10	Long
31060	400 kcmil 1/2"	Blue	0.95" (24,1 mm)	2.00" (50,8 mm)	0.66" (16,7 mm)	4.16" (105,7 mm)	1.34" (34,2 mm)	1.41" (35,8 mm)	10	Long
31066	500 kcmil 1/2"	Brown	1.06" (27,0 mm)	2.19" (55,6 mm)	0.66" (16,7 mm)	4.50" (114,3 mm)	1.34" (34,2 mm)	1.53" (38,9 mm)	10	Long
31067	500 kcmil 5/8"	Brown	1.06" (27,0 mm)	2.19" (55,6 mm)	0.66" (16,7 mm)	4.50" (114,3 mm)	1.34" (34,2 mm)	1.53" (38,9 mm)	10	Long
31068	600 kcmil 1/2"	Green	1.18" (30,0 mm)	2.60" (66,0 mm)	0.88" (22,4 mm)	5.12" (130,0 mm)	1.75" (44,4 mm)	1.69" (42,9 mm)	6	Long



3M™ Scotchlok™ Copper Lugs 31100 Series, up to 35 kV

The 3M™ Scotchlok™ Copper Lugs 31100 Series are a family of two hole lugs designed for terminating copper conductors. Each lug is tin plated to resist corrosion and can be installed with standard industry tools. Chamfered ends ensure ease of conductor insertion.

O.D. = Outside Diameter; (B) = Barrel Length; (C) = Center of Hole to End of Pad; (C') = Center of Hole to Center of Hole; (L) = Length; (P) = Pad Length; (W) = Pad Width

No. of Holes: Two Hole

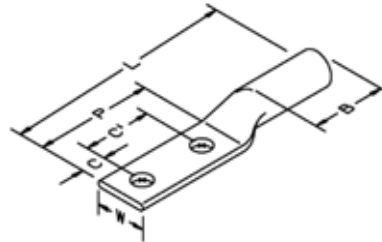
Lug Base Metal: Copper

For use with: Copper Conductor Only

Dimension (C): 0.63" (16,0 mm)

Dimension (C'): 1.75" (44,5 mm)

* = UL Listed



SKU #	Wire & Stud Size	Color	O.D.	(B)	(L)	(P)	(W)	Min/Cs Quantity	Barrel Style
31122	4 AWG 1/2"	Gray	0.34" (8,6 mm)	0.93" (23,5 mm)	4.19" (106,4 mm)	3.00" (76,2 mm)	0.66" (16,7 mm)	25	Long
31125	2 AWG 1/2"	Brown	0.42" (10,6 mm)	1.25" (31,8 mm)	4.85" (123,2 mm)	3.00" (76,2 mm)	0.63" (16,0 mm)	25	Long
31129	1 AWG 1/2"	Green	0.42" (10,6 mm)	1.25" (31,8 mm)	4.85" (123,2 mm)	3.00" (76,2 mm)	0.69" (17,5 mm)	10	Long
31130	1/0 AWG 1/2"	Pink	0.51" (13,0 mm)	1.38" (31,5 mm)	4.98" (126,5 mm)	3.00" (76,2 mm)	0.75" (19,0 mm)	10	Long
31137	2/0 AWG 1/2"	Black	0.56" (14,2 mm)	1.50" (38,1 mm)	5.03" (127,8 mm)	3.00" (76,2 mm)	0.81" (20,7 mm)	10	Long
31141	3/0 AWG 1/2"	Orange	0.62" (15,8 mm)	1.44" (36,5 mm)	5.13" (130,3 mm)	3.00" (76,2 mm)	0.91" (23,0 mm)	10	Long
31145*	4/0 AWG 1/2"	Purple	0.68" (17,4 mm)	1.56" (39,7 mm)	5.16" (131,1 mm)	3.00" (76,2 mm)	1.00" (25,4 mm)	10	Long
31149*	250 kcmil 1/2"	Yellow	0.75" (19,1 mm)	1.56" (39,7 mm)	5.31" (134,9 mm)	3.00" (76,2 mm)	1.13" (28,6 mm)	10	Long
31153*	300 kcmil 1/2"	White	0.81" (20,6 mm)	1.94" (49,2 mm)	5.75" (146,1 mm)	3.00" (76,2 mm)	1.22" (31,0 mm)	10	Long
31156*	350 kcmil 1/2"	Red	0.87" (22,1 mm)	1.94" (49,2 mm)	5.75" (146,1 mm)	3.00" (76,2 mm)	1.31" (33,4 mm)	10	Long
31160*	400 kcmil 1/2"	Blue	0.95" (24,1 mm)	2.12" (53,8 mm)	6.00" (152,4 mm)	3.00" (76,2 mm)	1.41" (35,8 mm)	10	Long
31166*	500 kcmil 1/2"	Brown	1.06" (26,9 mm)	2.19" (55,6 mm)	6.16" (156,4 mm)	3.00" (76,2 mm)	1.53" (38,9 mm)	10	Long
31168*	600 kcmil 1/2"	Green	1.18" (30,1 mm)	2.62" (66,5 mm)	6.72" (170,6 mm)	3.00" (76,2 mm)	1.69" (42,9 mm)	6	Long
31172*	750 kcmil 1/2"	Black	1.29" (33,0 mm)	2.81" (71,5 mm)	7.00" (177,8 mm)	3.00" (76,2 mm)	1.72" (43,7 mm)	6	Long
31178*	1000 kcmil 1/2"	White	1.50" (38,1 mm)	2.94" (74,6 mm)	7.28" (184,9 mm)	3.00" (76,2 mm)	1.72" (43,7 mm)	6	Long

3M™ Performance Plus Wire Connectors

Because of their increased wire range, just three 3M™ Performance Plus Wire Connectors handle the work of eight standard connectors. O/B+ connectors replace the orange, blue and gray wire connector style connectors, as well as 70% of the yellow wire connector and wing-style connectors. R/Y+ connectors replace both red and yellow wing-style connectors. B/G+ connectors cover both the large blue and gray connectors. This simplifies selection of the right connector for a wide range of wiring jobs. There's also less inventory to manage, and a better chance you'll have the connector you need to do every job.

A Better Bite for a Better Connection. 3M™ Performance Plus Wire Connectors O/B+, R/Y+ and B/G+ now have a better bite. Wires feed into the connector more easily, improving the security of the connection and increasing the level of pull out.

New Design Allows Easier Installation. We have modified the internal design of the O/B+, R/Y+ and B/G+ wire connectors. Installation is smooth, fast and easy on the hands.

Flexible Skirts Provide Safety. The flexible skirts on the O/B+, R/Y+ and B/G+ wire connectors make the workplace a safer environment. The flexible skirt provides protection against potential shock.

Connection Type: Wire

Connector Style: Twist On

Flame Retardant: Yes

Maximum Voltage Rating: 600 V (1000 V in signs, lighting fixtures and luminaries)

Operating Temperature: 221°F (105°C)

Agency Approval: UL and CSA Listed



Product Number		Color	Conductor Size	Connectors per Carton	Connectors per Case
B/G+BOX		Blue/Gray	14–6 AWG	50	500
B/G+JUG		Blue/Gray	14–6 AWG	250	2000
O/B+BOX		Orange/Blue	22–12 AWG	100	1000
O/B+JUG		Orange/Blue	22–12 AWG	500	10,000
R/Y+BOX		Red/Yellow	22–8 AWG	100	1000
R/Y+JUG		Red/Yellow	22–8 AWG	500	4000
R/Y+KEG		Red/Yellow	22–8 AWG	-	17,000

*Other connector styles available. Ask your 3M sales representative for additional information.

3M™ Cable Ties

3M™ Miniature Cable Ties

Product Number		Color	UV Resistance	Length	Width	Thickness	Min. Bundle Dia.	Max. Bundle Dia.	Items per Bag	Items per Case	Tensile Strength
CT4BK18-C		Black	Yes	4.10" (104 mm)	0.10" (3,0 mm)	0.04" (1,0 mm)	0.062" (1,6 mm)	0.75" (19,1 mm)	100	1000	18 lb (8 kg)
CT4BK18-M		Black	Yes	4.10" (104 mm)	0.10" (3,0 mm)	0.04" (1,0 mm)	0.062" (1,6 mm)	0.75" (19,1 mm)	1000	10,000	18 lb (8 kg)
CT4NT18-C		Natural	No	4.10" (104 mm)	0.10" (3,0 mm)	0.04" (1,0 mm)	0.062" (1,6 mm)	0.75" (19,1 mm)	100	1000	18 lb (8 kg)
CT4NT18-M		Natural	No	4.10" (104 mm)	0.10" (3,0 mm)	0.04" (1,0 mm)	0.062" (1,6 mm)	0.75" (19,1 mm)	1000	10,000	18 lb (8 kg)
CT6BK18-C		Black	Yes	6.10" (155 mm)	0.10" (3,0 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	1.25" (31,8 mm)	100	1000	18 lb (8 kg)
CT6NT18-C		Natural	No	6.10" (155 mm)	0.10" (3,0 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	1.25" (31,8 mm)	100	1000	18 lb (8 kg)
CT6NT18-M		Natural	No	6.10" (155 mm)	0.10" (3,0 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	1.25" (31,8 mm)	1000	10,000	18 lb (8 kg)
CT8BK18-C		Black	Yes	8.10" (206 mm)	0.10" (3,0 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	2.00" (50,8 mm)	100	1000	18 lb (8 kg)
CT8BK18-M		Black	Yes	8.10" (206 mm)	0.10" (3,0 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	2.00" (50,8 mm)	1000	10,000	18 lb (8 kg)
CT8NT18-C		Natural	No	8.10" (206 mm)	0.10" (3,0 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	2.00" (50,8 mm)	100	1000	18 lb (8 kg)
CT8NT18-M		Natural	No	8.10" (206 mm)	0.10" (3,0 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	2.00" (50,8 mm)	1000	10,000	18 lb (8 kg)

3M™ Intermediate Cable Ties

Product Number		Color	UV Resistance	Length	Width	Thickness	Min. Bundle Dia.	Max. Bundle Dia.	Items per Bag	Items per Case	Tensile Strength
CT8BK50-C		Black	Yes	7.60" (193 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	1.87" (47,5 mm)	100	1000	40 lb (18 kg)
CT8BK50-M		Black	Yes	7.60" (193 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	1.87" (47,5 mm)	1000	10,000	40 lb (18 kg)
CT8NT50-C		Natural	No	7.60" (193 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	1.87" (47,5 mm)	100	1000	40 lb (18 kg)
CT8NT50-M		Natural	No	7.60" (193 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	1.87" (47,5 mm)	1000	10,000	40 lb (18 kg)
CT8RD50-C		Red	No	7.60" (193 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	2.00" (50,8 mm)	100	1000	40 lb (18 kg)
CT11BK50-C		Black	Yes	11.10" (282 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	100	1000	40 lb (18 kg)
CT11BK50-D		Black	Yes	11.10" (282 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	500	5000	40 lb (18 kg)
CT11NT50-C		Natural	No	11.10" (282 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	100	1000	40 lb (18 kg)
CT11NT50-D		Natural	No	11.10" (282 mm)	0.18" (4,6 mm)	0.05" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	500	5000	40 lb (18 kg)

3M™ Intermediate Cable Ties (cont.)

Product Number		Color	UV Resistance	Length	Width	Thickness	Min. Bundle Dia.	Max. Bundle Dia.	Items per Bag	Items per Case	Tensile Strength
CT11RD50-C		Red	No	11.10" (282 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	100	1000	40 lb (18 kg)
CT15BK50-C		Black	Yes	14.60" (371 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	4.00" (101,6 mm)	100	500	40 lb (18 kg)
CT15BK50-D		Black	Yes	14.60" (371 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	4.00" (101,6 mm)	500	2500	40 lb (18 kg)
CT15NT50-C		Natural	No	14.60" (371 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	4.00" (101,6 mm)	100	500	40 lb (18 kg)
CT15NT50-D		Natural	No	14.60" (371 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	4.00" (101,6 mm)	500	2500	40 lb (18 kg)

3M™ Standard Duty Cable Ties

Product Number		Color	UV Resistance	Length	Width	Thickness	Min. Bundle Dia.	Max. Bundle Dia.	Items per Bag	Items per Case	Tensile Strength
CT8BK50-C		Black	Yes	7.60" (193 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	1.87" (47,5 mm)	100	1000	120 lb (54 kg)
CT8BK50-M		Black	Yes	7.60" (193 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	1.87" (47,5 mm)	1000	10,000	120 lb (54 kg)
CT8NT50-C		Natural	No	7.60" (193 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	1.87" (47,5 mm)	100	1000	120 lb (54 kg)
CT8NT50-M		Natural	No	7.60" (193 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	1.87" (47,5 mm)	1000	10,000	120 lb (54 kg)
CT8RD50-C		Red	No	7.60" (193 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	2.00" (50,8 mm)	100	1000	120 lb (54 kg)
CT11BK50-C		Black	Yes	11.10" (282 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	100	1000	120 lb (54 kg)
CT11BK50-D		Black	Yes	11.10" (282 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	500	5000	120 lb (54 kg)
CT11NT50-C		Natural	No	11.10" (282 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	100	1000	120 lb (54 kg)
CT11NT50-D		Natural	No	11.10" (282 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	500	5000	120 lb (54 kg)
CT11RD50-C		Red	No	11.10" (282 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	3.00" (76,2 mm)	100	1000	120 lb (54 kg)
CT15BK50-C		Black	Yes	14.60" (371 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	4.00" (101,6 mm)	100	500	120 lb (54 kg)
CT15BK50-D		Black	Yes	14.60" (371 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	4.00" (101,6 mm)	500	2500	120 lb (54 kg)
CT15NT50-C		Natural	No	14.60" (371 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	4.00" (101,6 mm)	100	500	120 lb (54 kg)
CT15NT50-D		Natural	No	14.60" (371 mm)	0.18" (4,6 mm)	00.5" (1,3 mm)	0.062" (1,6 mm)	4.00" (101,6 mm)	500	2500	120 lb (54 kg)

3M™ Light Heavy Duty Cable Ties

Product Number		Color	UV Resistance	Length	Width	Thickness	Min. Bundle Dia.	Max. Bundle Dia.	Items per Bag	Items per Case
CT8BK120-L		Black	Yes	9.00" (229 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	2.00" (50,8 mm)	50	500
CT8NT120-L		Natural	No	9.00" (229 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	2.00" (50,8 mm)	50	500
CT15BK120-C		Black	Yes	15.00" (381 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	4.00" (101,6 mm)	100	500
CT15BK120-D		Black	Yes	15.00" (381 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	4.00" (101,6 mm)	500	2500
CT15NT120-C		Natural	No	15.00" (381 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	4.00" (101,6 mm)	100	500
CT15NT120-D		Natural	No	15.00" (381 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	4.00" (101,6 mm)	500	2500

3M™ Heavy Duty Cable Ties

Product Number		Color	UV Resistance	Length	Width	Thickness	Min. Bundle Dia.	Max. Bundle Dia.	Items per Bag	Items per Case	Tensil Strength
CT24BK175-L		Black	Yes	24.00" (610 mm)	0.34" (8,6 mm)	0.09" (2,3 mm)	0.19" (4,8 mm)	7.20" (183 mm)	50	500	175 lb (79 kg)
CT24NT175-L		Natural	No	24.00" (610 mm)	0.34" (8,6 mm)	0.09" (2,3 mm)	0.19" (4,8 mm)	7.20" (183 mm)	50	500	175 lb (79 kg)
CT36BK175-L		Black	Yes	36.00" (914 mm)	0.34" (8,6 mm)	0.09" (2,3 mm)	0.19" (4,8 mm)	11.00" (279 mm)	50	500	175 lb (79 kg)
CT36NT175-L		Natural	No	36.00" (914 mm)	0.34" (8,6 mm)	0.09" (2,3 mm)	0.19" (4,8 mm)	11.00" (279 mm)	50	500	175 lb (79 kg)
CT48BK175-L		Black	Yes	47.90" (1217 mm)	0.36" (9,1 mm)	0.07" (1,8 mm)	1.5" (38 mm)	14.60" (372 mm)	50	500	175 lb (79 kg)
CT48NT175-L		Natural	No	47.90" (1217 mm)	0.36" (9,1 mm)	0.07" (1,8 mm)	1.5" (38 mm)	14.60" (372 mm)	50	500	175 lb (79 kg)
CT15BK120-D		Black	Yes	15.00" (381 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	4.00" (101,6 mm)	500	2500	175 lb (79 kg)
CT15NT120-C		Natural	No	15.00" (381 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	4.00" (101,6 mm)	100	500	175 lb (79 kg)
CT15NT120-D		Natural	No	15.00" (381 mm)	0.30" (7,6 mm)	0.07" (1,8 mm)	0.19" (4,8 mm)	4.00" (101,6 mm)	500	2500	175 lb (79 kg)



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