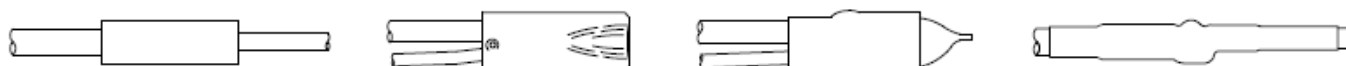


3M™ Motor Lead Splicing Kits

5300 Series

For 1000 Volts or Less Cables or 5/8 kV Shielded and Non-Shielded Cables



Data Sheet

February 2017

Description

3M™ Motor Lead Splicing Kits 5300 Series are a series of kits designed for splicing motor lead cables to incoming feeder cables. These kits can accommodate the following splice configurations:

- Pigtails (stub) connections, 1000 Volts and less.
- Inline connections, 1000 Volts and less.
- Pigtail (stub) connections, 5/8 kV shielded and non-shielded feeders.
- Inline connections, 5/8 kV shielded and non-shielded feeders.
- In addition, splice kits 5300 – 5319 are CSA certified for motor lead applications up to 600 Volts.

The splice's main component, the lug or splice cover, is made from EPDM rubber either as a slip-on or as a cold shrink insulator. A mastic is used for the moisture seal on the pigtail kits. The 5/8 kV kits, designed for shielded feeder cables, utilize a high dielectric constant stress control material or the feeder cable's electrical stress control. These kits are designed to be used with copper compression, one or two hole lugs. After being crimped onto the cables, the lugs are bolted together in an inline or pigtail configuration, 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 Lugs 30,000 Series, or other UL listed copper lugs, can be used.

Features

- Fast and simple installation
- No torches or heat source required
- No special tools required to install splice
- Thick walls to resist puncture and abrasion damage
- High Dielectric constant stress control included with 5/8 kV kits for shielded feeder cables, for minimizing size and electrical stress
- Easy re-entry.

3M™ Motor Lead Splicing Kits 5300 Series

Kit Contents

Each kit contains sufficient quantities of the following materials to make three splices (lugs and vinyl tape are not included), see chart below.

Kit Component	Kit Number					
	5300 Thru 5301	5302 Thru 5394	5311 Thru 5314	5316 Thru 5319	5321 Thru 5324	5331 Thru 5333
Lug covers (pigtail)	X	X		X	X	
Locking Pins		X		X		
Splice Cover (inline)			X			
PST Cold Shrink Tubes					X	X
Adapter Sleeves			X			X
Scotch® Electrical Stress Control Tape 2220					X	X
Scotch® Linerless Rubber Tape 130C				X	X	X
Mastic Sealing Strips	X	X		X	X	
Solvent Cleaning cloths				X	X	X
Silicone Grease Lubricant	X	X	X	X	X	X
Instruction Sheet	X	X	X	X	X	X

Applications

3M™ Motor Lead Splicing Kits 5300 Series can be used on cables with a rated operating temperature of 90°C and an emergency overload rating of 130°C. Splicing kits 5300 through 5314 are rated for 1000 Volts, and kits 5316 through 5334 are rated for 5/8 kV.

To splice (insulate and seal) motor lead connections for:

- 1000 Volts and less cables sized 16 AWG to 500 kcmil
- 5/8 kV shielded and non-shielded feeder cables sized 8 AWG to 500 kcmil
- Polyethylene cable
- Cross linked polyethylene cable (XLP)
- Ethylene propylene rubber cable (EPR)
- Copper conductors

Typical Properties

Physical Properties (Test Method) (ASTM D412 unless otherwise noted)	Typical Value US units (metric)
Color	Black
300 Modulus	480 psi (3,3 MPa)
Ultimate Tensile Strength	1400 psi (9,6 MPa)
Ultimate Elongation	750%
Die C Tear (ASTM D624C)	150 ppi (26,3 KN/m)

Electrical Properties (Test Method) (ASTM D149)	Typical Value US units (metric)
Dielectric Strength Original 7 days in H ₂ O, 90°C (194°F)	365 V/mil (14,3 MV/mil) 282 V/mil (11,1 MV/m)

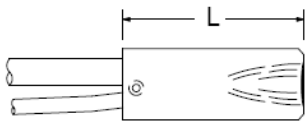
*All values are averages and are not intended for specification purposes.

3M™ Motor Lead Splicing Kits 5300 Series

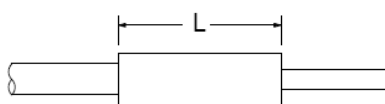
Splice Selection Table

Type	Kit Number	Voltage Rating	Range Feeder Cable (AWG & kcmil)	Range Motor Lead (AWG & kcmil)	Max. bolt Length (inches)
Pigtail (1 hole lugs)	5300	1000 V	14 – 10	16 – 12	3/8
	5301	1000 V	10 – 4	12 – 4	1/2
	5302	1000 V	2 – 1/0	4 – 1/0	3/4
	5303	1000 V	1/0 – 250	2 – 250	1 1/4
	5304	1000 V	250 – 500	4/0 – 500	1 1/2
Inline	5311	1000 V	10 – 4	12 – 4	1/2
	5312	1000 V	2 – 1/0	4 – 1/0	3/4
	5313	1000 V	1/0 – 250	2 – 250	1
	5314	1000 V	250 – 500	4/0 – 500	1 1/4
Pigtail (2 hole lugs)	5316	1000 V	8 – 4	10 – 4	1/2
	5317	1000 V	2 – 1/0	4 – 1/0	3/4
	5318	1000 V	1/0 – 250	2 – 250	1 1/4
	5319	1000 V	250 – 500	4/0 – 500	1 1/2
Pigtail (Non-Shielded)	5316	5/8 kV	8 – 4	10 – 4	1/2
	5317	5/8 kV	2 – 1/0	4 – 1/0	3/4
	5318	5/8 kV	1/0 – 250	2 – 250	1 1/4
	5319	5/8 kV	250 – 500	4/0 – 500	1 1/2
Pigtail (Shielded)	5321	5/8 kV	8 – 4	10 – 4	1/2
	5322	5/8 kV	2 – 1/0	4 – 1/0	3/4
	5323	5/8 kV	1/0 – 250	2 – 250	1 1/4
	5324	5/8 kV	250 – 500	4/0 – 500	1 1/2
Inline (Shielded or Non-Shielded)	5331	5/8 kV	8 – 4	10 – 4	3/4
	5332	5/8 kV	2 – 1/0	4 – 1/0	1
	5333	5/8 kV	1/0 – 250	2 – 250	1 1/4
	5334	5/8 kV	250 – 500	4/0 – 500	1 1/2

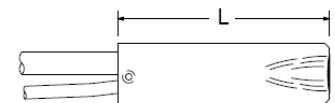
Typical Dimensions



1000 V Pigtail (1 hole lug)



1000 V Inline*



5/8 kV Pigtail (non-shielded) & 1000V Pigtail (2 hole lug)

Kit Number	L Inches (mm)
5300	2.1 (53)
5301	3.4 (86)
5302	4.2 (107)
5303	5.3 (135)
5304	6.7 (170)

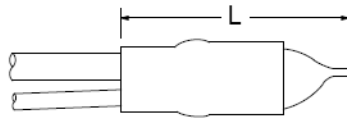
Kit Number	L Inches (mm)
5311	4 -5 (102 -127)
5312	8 -9 (203 - 229)
5313	9 - 10 (229 - 254)
5314	12 - 13 (269 - 330)

Kit Number	L Inches (mm)
5316	8.0 (203)
5317	9.5 (241)
5318	11.0 (1279)
5319	13.0 (330)

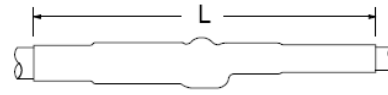
For inline splice kits: The longitudinal space required for assembly will be approximately 2L, to allow space for the splice while the connection is being made.

3M™ Motor Lead Splicing Kits 5300 Series

Typical Dimensions, continued



5/8 kV Pigtail (shielded)



5/8 kV Inline (shielded or
non-shielded)

Kit Number	L Inches (mm)
5321	7 - 8 (178 - 203)
5322	8 - 9 (203 - 229)
5323	9 - 10 (229 - 254)
5324	10.5 - 11.5 (267 - 292)

Kit Number	L Inches (mm)
5331	10 - 11 (254 - 279)
5332	12 - 13 (269 - 330)
5333	15 - 16 (381 - 406)
5334	17 - 18 (432 - 457)

For inline splice kits: The longitudinal space required for assembly will be approximately 2L, to allow space for the splice while the connection is being made.

Maintenance	Components with this kit are stable under normal storage conditions. Normal stock rotation practices are recommended. The mastic and cold shrink insulator are not impaired by freezing or heated storage up to the flow temperature of the mastic. 3M cold shrink removable core material is polypropylene and recyclable with other  waste.
Shelf Life & Storage	As provided in the expanded state, the 3M™ Motor Lead Splicing Kits 5300 Series have an on-shelf life of 3 years from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).
Availability	Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-800-245-3573.
Important Notice	All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.
Warranty; Limited Remedy; Limited Liability	This product will be free from defects in material and manufacture at the time of purchase. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.

3M and Scotchlok are trademarks of 3M Company.
Scotch is a registered trademark of 3M Company.
CSA is a registered trademark of the Canadian Standards Association.

3M

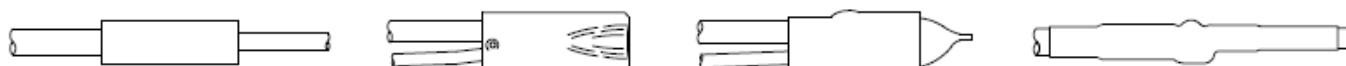
Electrical Markets Division
6801 River Place Blvd.
Austin, TX 78726-9000
800.245.3573
FAX: 800.245.0329
www.3M.com/electrical

Please recycle
© 3M 2017 All rights reserved
78-8127-9126-3 B

3M™ Motor Lead Splicing Kits

5300 Series

For 1000 Volts or Less Cables or 5/8 kV Shielded and Non-Shielded Cables



Data Sheet

February 2017

Description

3M™ Motor Lead Splicing Kits 5300 Series are a series of kits designed for splicing motor lead cables to incoming feeder cables. These kits can accommodate the following splice configurations:

- Pigtails (stub) connections, 1000 Volts and less.
- Inline connections, 1000 Volts and less.
- Pigtail (stub) connections, 5/8 kV shielded and non-shielded feeders.
- Inline connections, 5/8 kV shielded and non-shielded feeders.
- In addition, splice kits 5300 – 5319 are CSA certified for motor lead applications up to 600 Volts.

The splice's main component, the lug or splice cover, is made from EPDM rubber either as a slip-on or as a cold shrink insulator. A mastic is used for the moisture seal on the pigtail kits. The 5/8 kV kits, designed for shielded feeder cables, utilize a high dielectric constant stress control material or the feeder cable's electrical stress control. These kits are designed to be used with copper compression, one or two hole lugs. After being crimped onto the cables, the lugs are bolted together in an inline or pigtail configuration, 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 Lugs 30,000 Series, or other UL listed copper lugs, can be used.

Features

- Fast and simple installation
- No torches or heat source required
- No special tools required to install splice
- Thick walls to resist puncture and abrasion damage
- High Dielectric constant stress control included with 5/8 kV kits for shielded feeder cables, for minimizing size and electrical stress
- Easy re-entry.

3M™ Motor Lead Splicing Kits 5300 Series

Kit Contents

Each kit contains sufficient quantities of the following materials to make three splices (lugs and vinyl tape are not included), see chart below.

Kit Component	Kit Number					
	5300 Thru 5301	5302 Thru 5394	5311 Thru 5314	5316 Thru 5319	5321 Thru 5324	5331 Thru 5333
Lug covers (pigtail)	X	X		X	X	
Locking Pins		X		X		
Splice Cover (inline)			X			
PST Cold Shrink Tubes					X	X
Adapter Sleeves			X			X
Scotch® Electrical Stress Control Tape 2220					X	X
Scotch® Linerless Rubber Tape 130C				X	X	X
Mastic Sealing Strips	X	X		X	X	
Solvent Cleaning cloths				X	X	X
Silicone Grease Lubricant	X	X	X	X	X	X
Instruction Sheet	X	X	X	X	X	X

Applications

3M™ Motor Lead Splicing Kits 5300 Series can be used on cables with a rated operating temperature of 90°C and an emergency overload rating of 130°C. Splicing kits 5300 through 5314 are rated for 1000 Volts, and kits 5316 through 5334 are rated for 5/8 kV.

To splice (insulate and seal) motor lead connections for:

- 1000 Volts and less cables sized 16 AWG to 500 kcmil
- 5/8 kV shielded and non-shielded feeder cables sized 8 AWG to 500 kcmil
- Polyethylene cable
- Cross linked polyethylene cable (XLP)
- Ethylene propylene rubber cable (EPR)
- Copper conductors

Typical Properties

Physical Properties (Test Method) (ASTM D412 unless otherwise noted)	Typical Value US units (metric)
Color	Black
300 Modulus	480 psi (3,3 MPa)
Ultimate Tensile Strength	1400 psi (9,6 MPa)
Ultimate Elongation	750%
Die C Tear (ASTM D624C)	150 ppi (26,3 KN/m)

Electrical Properties (Test Method) (ASTM D149)	Typical Value US units (metric)
Dielectric Strength Original 7 days in H ₂ O, 90°C (194°F)	365 V/mil (14,3 MV/mil) 282 V/mil (11,1 MV/m)

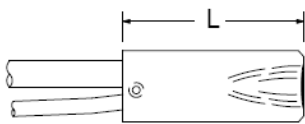
*All values are averages and are not intended for specification purposes.

3M™ Motor Lead Splicing Kits 5300 Series

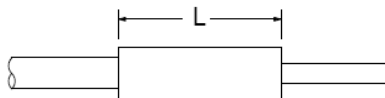
Splice Selection Table

Type	Kit Number	Voltage Rating	Range Feeder Cable (AWG & kcmil)	Range Motor Lead (AWG & kcmil)	Max. bolt Length (inches)
Pigtail (1 hole lugs)	5300	1000 V	14 – 10	16 – 12	3/8
	5301	1000 V	10 – 4	12 – 4	1/2
	5302	1000 V	2 – 1/0	4 – 1/0	3/4
	5303	1000 V	1/0 – 250	2 – 250	1 1/4
	5304	1000 V	250 – 500	4/0 – 500	1 1/2
Inline	5311	1000 V	10 – 4	12 – 4	1/2
	5312	1000 V	2 – 1/0	4 – 1/0	3/4
	5313	1000 V	1/0 – 250	2 – 250	1
	5314	1000 V	250 – 500	4/0 – 500	1 1/4
Pigtail (2 hole lugs)	5316	1000 V	8 – 4	10 – 4	1/2
	5317	1000 V	2 – 1/0	4 – 1/0	3/4
	5318	1000 V	1/0 – 250	2 – 250	1 1/4
	5319	1000 V	250 – 500	4/0 – 500	1 1/2
Pigtail (Non-Shielded)	5316	5/8 kV	8 – 4	10 – 4	1/2
	5317	5/8 kV	2 – 1/0	4 – 1/0	3/4
	5318	5/8 kV	1/0 – 250	2 – 250	1 1/4
	5319	5/8 kV	250 – 500	4/0 – 500	1 1/2
Pigtail (Shielded)	5321	5/8 kV	8 – 4	10 – 4	1/2
	5322	5/8 kV	2 – 1/0	4 – 1/0	3/4
	5323	5/8 kV	1/0 – 250	2 – 250	1 1/4
	5324	5/8 kV	250 – 500	4/0 – 500	1 1/2
Inline (Shielded or Non-Shielded)	5331	5/8 kV	8 – 4	10 – 4	3/4
	5332	5/8 kV	2 – 1/0	4 – 1/0	1
	5333	5/8 kV	1/0 – 250	2 – 250	1 1/4
	5334	5/8 kV	250 – 500	4/0 – 500	1 1/2

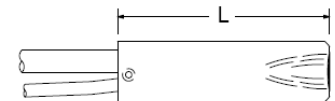
Typical Dimensions



1000 V Pigtail (1 hole lug)



1000 V Inline*



5/8 kV Pigtail (non-shielded) & 1000V Pigtail (2 hole lug)

Kit Number	L Inches (mm)
5300	2.1 (53)
5301	3.4 (86)
5302	4.2 (107)
5303	5.3 (135)
5304	6.7 (170)

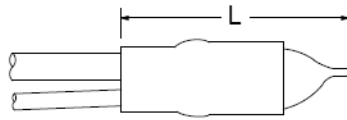
Kit Number	L Inches (mm)
5311	4 -5 (102 -127)
5312	8 -9 (203 - 229)
5313	9 - 10 (229 - 254)
5314	12 - 13 (269 - 330)

Kit Number	L Inches (mm)
5316	8.0 (203)
5317	9.5 (241)
5318	11.0 (1279)
5319	13.0 (330)

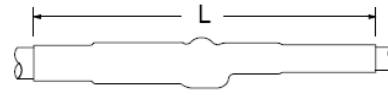
For inline splice kits: The longitudinal space required for assembly will be approximately 2L, to allow space for the splice while the connection is being made.

3M™ Motor Lead Splicing Kits 5300 Series

Typical Dimensions, continued



5/8 kV Pigtail (shielded)



5/8 kV Inline (shielded or
non-shielded)

Kit Number	L Inches (mm)
5321	7 - 8 (178 - 203)
5322	8 - 9 (203 - 229)
5323	9 - 10 (229 - 254)
5324	10.5 - 11.5 (267 - 292)

Kit Number	L Inches (mm)
5331	10 - 11 (254 - 279)
5332	12 - 13 (269 - 330)
5333	15 - 16 (381 - 406)
5334	17 - 18 (432 - 457)

For inline splice kits: The longitudinal space required for assembly will be approximately 2L, to allow space for the splice while the connection is being made.

Maintenance	Components with this kit are stable under normal storage conditions. Normal stock rotation practices are recommended. The mastic and cold shrink insulator are not impaired by freezing or heated storage up to the flow temperature of the mastic. 3M cold shrink removable core material is polypropylene and recyclable with other  waste.
Shelf Life & Storage	As provided in the expanded state, the 3M™ Motor Lead Splicing Kits 5300 Series have an on-shelf life of 3 years from date of manufacture when stored in a humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity).
Availability	Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1-800-245-3573.
Important Notice	All statements, technical information, and recommendations related to 3M's products are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use. Any statements related to the product, which are not contained in 3M's current publications, or any contrary statements contained on your purchase order, shall have no force or effect unless expressly agreed upon, in writing, by an authorized officer of 3M.
Warranty; Limited Remedy; Limited Liability	This product will be free from defects in material and manufacture at the time of purchase. 3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. Except where prohibited by law, 3M will not be liable for any indirect, special, incidental or consequential loss or damage arising from this 3M product, regardless of the legal theory asserted.

3M and Scotchlok are trademarks of 3M Company.
Scotch is a registered trademark of 3M Company.
CSA is a registered trademark of the Canadian Standards Association.

3M

Electrical Markets Division
6801 River Place Blvd.
Austin, TX 78726-9000
800.245.3573
FAX: 800.245.0329
www.3M.com/electrical

Please recycle
© 3M 2017 All rights reserved
78-8127-9126-3 B