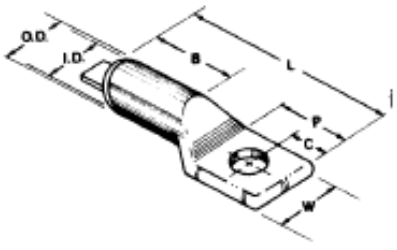
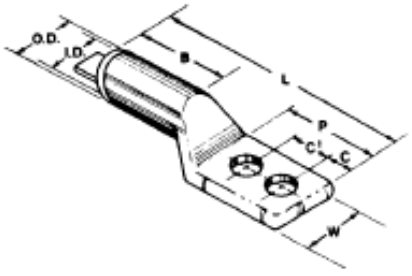
3M™ Scotchlok™ Copper/ Aluminum Compression Lugs, 40000 Series

Data Sheet **May 2011**

Description	3M™ Scotchlok™ Copper/Aluminum Compression Lugs 40000 Series are made of high conductivity aluminum and are designed to cover a wide range of conductor sizes from 6 AWG through 1000 kcmil (MCM). The lugs consist of a series of one-hole lugs ranging from 6 AWG through 1000 kcmil (MCM) and two-hole lugs, for maximum secureness requirements, ranging from 1/0 AWG through 1000 kcmil (MCM). They are designed to terminate either aluminum or copper conductors. Each lug is electro-tin plated to resist electrolytic corrosion. They are installed using standard industry tooling. Chamfered ends ensure simplicity and ease of conductor insertion.
Agency Approvals and Self Certifications	UL Listed, File No. E23438
Features	• Simple installation using readily available tools • Manufactured using high conductivity aluminum • Color coded end caps for easy lug identification • Antioxidant material (compatible with all solid insulations) inside lug barrel to facilitate clean conductor to lug contact
Applications	• Termination of aluminum or copper conductors from 6 AWG through 1000kcmil (MCM) • For low and medium voltage up to 35kV • For indoor and outdoor use





3M™ Scotchlok™ Copper/Aluminum Compression Lugs, 40000 Series

One-Hole Lug Dimensions and Selection Guide [Dimensions in Inches and (Millimeters)]

3M™ Scotchlok™ Lug Number	Conductor Size AWG or kcmil (MCM)	Stud Size	Color Code	I.D., +/- .010"	O.D., +/- .010"	L, Length, +/- .125"	B, Barrel Length, Min.	P, Pad Length, Min.	W, Pad Width, +/- .060"	C, Center of Hole-to-End of Pad, +/- .031"
40016	6 AWG	5/16	Gray	.200 (5.1)	.344 (8.8)	2.281 (57.9)	.750 (19.1)	.875 (22.2)	.562 (14.3)	.437 (11.1)
40020	4 AWG	5/16	Green	.265 (6.7)	.468 (11.9)	2.250 (57.2)	.938 (23.8)	.969 (24.6)	.625 (15.9)	.437 (11.1)
40024	2 AWG	3/8	Pink	.307 (7.8)	.531 (13.5)	2.625 (66.7)	.922 (23.4)	1.031 (26.2)	.750 (19.1)	.437 (11.1)
40025	2 AWG	1/2	Pink	.307 (7.8	.531 (13.5)	2.625 (66.7)	.922 (23.4)	1.125 (28.6)	.750 (19.1)	.437 (11.1)
40028	1 AWG	3/8	Gold	.350 (8.9)	.531 (13.5)	2.625 (66.7)	.922 (23.4)	1.031 (26.2)	.750 (19.1)	.437 (11.1)
40029	1 AWG	1/2	Gold	.350 (8.9)	.531 (13.5)	2.625 (66.7)	.922 (23.4)	1.125 (28.6)	.750 (19.1)	.437 (11.1)
40032	1/0 AWG	3/8	Tan	.414 (10.5)	.635 (16.1)	3.125 (79.4)	1.187 (30.1)	1.312 (33.3)	.875 (22.5)	.625 (15.9)
40033	1/0 AWG	1/2	Tan	.414 (10.5)	.635 (16.1)	3.125 (79.4)	1.187 (30.1)	1.312 (33.3)	.875 (22.5)	.625 (15.9)
40037	2/0 AWG	1/2	Olive	.439 (11.2)	.687 (17.5)	3.187 (80.9)	1.303 (33.1)	1.250 (31.8)	.953 (24.2)	.625 (15.9)
40041	3/0 AWG	1/2	Ruby	.484 (12.3)	.760 (19.3)	3.437 (87.3)	1.500 (38.1)	1.281 (32.5)	1.065 (27.1)	.625 (15.9)
40045	4/0 AWG	1/2	White	.547 (13.9)	.875 (22.2)	3.562 (90.5)	1.438 (36.5)	1.344 (34.1)	1.187 (30.2)	.625 (15.9)
40046	4/0 AWG	5/8	White	.547 (13.9)	.875 (22.2)	3.562 (90.5)	1.438 (36.5)	1.344 (34.1)	1.187 (30.2)	.625 (15.9)
40049	250 kcmil	1/2	Red	.594 (15.1)	.906 (23.0)	3.625 (92.1)	1.563 (39.7)	1.313 (33.4)	1.237 (31.4)	.625 (15.9)
40050	250 kcmil	5/8	Red	.594 (15.1)	.906 (23.0)	3.625 (92.1)	1.590 (40.4)	1.313 (33.4)	1.237 (31.4)	.625 (15.9)
40053	300 kcmil	1/2	Dark Blue	.650 (16.5)	1.010 (25.7)	4.000 (101.6)	2.198 (55.6)	1.313 (33.4)	1.360 (34.5)	.625 (15.9)
40056	350 kcmil	1/2	Brown	.720 (18.3)	1.105 (28.1)	4.250 (108.0)	2.198 (55.6)	1.313 (33.4)	1.490 (37.8)	.625 (15.9)
40057	350 kcmil	5/8	Brown	.720 (18.3)	1.105 (28.1)	4.313 (109.5)	2.198 (55.6)	1.313 (33.4)	1.490 (37.8)	.625 (15.9)
40067	500 kcmil	5/8	Pink	.843 (21.4)	1.320 (33.5)	5.437 (138.1)	2.938 (74.6)	1.500 (38.1)	1.734 (44.0)	.625 (15.9)
40073	750 kcmil	5/8	Yellow	1.031 (26.2)	1.500 (38.1)	6.375 (161.9)	3.313 (84.2)	1.875 (47.6)	1.719 (43.7)	.875 (22.2)
40079	1000 kcmil	5/8	Brown	1.193 (30.3)	1.843 (46.8)	7.937 (201.6)	4.625 (117.5)	1.875 (47.6)	2.422 (61.5)	.875 (22.2)

3M™ Scotchlok™ Copper/Aluminum Compression Lugs, 40000 Series

Two-Hole Lug Dimensions and Selection Guide [Dimensions in Inches and (Millimeters)]

3M™ Scotchlok™ Lug Number	Conductor Size AWG or kcmil (MCM)	Stud Size	Color Code	I.D., +/- .010"	O.D., +/- .010"	L, Length, +/- .125"	B, Barrel Length, Min.	P, Pad Length, ±.060"	W, Pad Width, +/- .060"	C, Center of Hole-to-End of Pad,	C1, Hole-to-Hole, Center-to-Center, +/- .015"
40132	1/0 AWG	3/8	Tan	.414 (10.5)	.640 (16.3)	5.281 (134.1)	1.50 (38.1)	3.250 (82.6)	.875 (22.2)	.625 (15.9)	1.75 (44.5)
40137	2/0 AWG	1/2	Olive	.439 (11.2)	.687 (17.5)	5.500 (139.7)	1.50 (38.1)	3.250 (82.6)	.938 (23.8)	.625 (15.9)	1.75 (44.5)
40141	3/0 AWG	1/2	Ruby	.484 (12.3)	.760 (19.3)	5.500 (139.7)	1.50 (38.1)	3.250 (82.6)	1.063 (27.0)	.625 (15.9)	1.75 (44.5)
40145	4/0 AWG	1/2	White	.547 (13.9)	.875 (22.2)	6.000 (152.4)	1.938 (49.2)	3.375 (85.7)	1.188 (30.2)	.625 (15.9)	1.75 (44.5)
40149	250 kcmil	1/2	Red	.594 (15.1)	.906 (23.0)	6.000 (152.4)	1.938 (49.2)	3.375 (85.7)	1.250 (31.8)	.625 (15.9)	1.75 (44.5)
40153	300 kcmil	1/2	Dark Blue	.650 (16.5)	1.010 (25.7)	6.562 (166.7)	2.25 (57.2)	3.563 (90.5)	1.375 (35.0)	.625 (15.9)	1.75 (44.5)
40156	350 kcmil	1/2	Brown	.720 (18.3)	1.105 (28.1)	6.562 (166.7)	2.25 (57.2)	3.563 (90.5)	1.500 (38.1)	.625 (15.9)	1.75 (44.5)
40160	400 kcmil	1/2	Green	.762 (19.4)	1.187 (30.2)	6.875 (174.6)	2.50 (63.5)	3.563 (90.5)	1.625 (41.3)	.625 (15.9)	1.75 (44.5)
40166	500 kcmil	1/2	Pink	.843 (21.4)	1.320 (33.5)	7.312 (185.7)	3.00 (76.2)	3.563 (90.5)	1.750 (44.5)	.625 (15.9)	1.75 (44.5)
40170	600 kcmil	1/2	Black	.923 (23.4)	1.438 (36.3)	7.750 (190.5)	3.00 (76.2)	3.625 (92.1)	1.750 (44.5)	.625 (15.9)	1.75 (44.5)
40172	750 kcmil	1/2	Yellow	1.031 (26.2)	1.500 (38.1)	8.250 (209.6)	3.38 (85.9)	3.625 (92.1)	1.750 (44.5)	.625 (15.9)	1.75 (44.5)
40178	1000 kcmil	1/2	Brown	1.193 (30.3)	1.843 (46.8)	9.687 (246.0)	4.625 (117.5)	3.625 (92.1)	2.438 (62.0)	.625 (15.9)	1.75 (44.5)

Typical Properties

Not for specifications. Values are typical, not to be considered minimum or maximum. Properties measured at room temperature 73°F (23°C) unless otherwise stated.

3M™ Scotchlok™ Copper/Aluminum Compression Lugs, 40000 Series, when crimped with approved die sets, can be used on cables with an operating temperature of 194°F (90°C) and an emergency overload rating of 266°F (130°C). The lugs pass the requirements of UL486B (Underwriters Laboratories standard for safety). The current rating of these lugs meets or exceeds the current rating of the conductor size for which it is intended.

Tool/Installation Information

Lugs shall be crimped with one of the approved die sets according to the engineering information supplied with the lugs. (Also see Crimping Tool-Die Sets table below)

3M™ Scotchlok™ Copper/Aluminum Compression Lugs, 40000 Series

Crimping Tool Recommendations

One-Hole Lug Crimping Tool – Die Sets (# of Crimps)

3M™ Scotchlok™ Lug Number	Conductor Size AWG or kcmil (MCM)	Burndy Corporation						Thomas & Betts			Kearney
		Die Index	MD6	Y35	Y39	Y45	Y46	TBM5	TBM 8	TBM15	WH2,052
40016	6 AWG	161 346	W161 (1) -------	U161 (1) U6CABT (1)	------- U6CABT (1)	U161 (1) U6CABT (1)	U161 (1) U6CABT (1)	Grey (1)	Grey (1)	29 (1)	5/16 (1)
40020	4 AWG	162 375	W162 (2) -------	U162 (1) U4CABT (1)	------- U4CABT (1)	U162 (1) U4CABT (1)	U162 (1) U4CABT (1)	Green (2)	Green (2)	37 (1)	-------
40024	2 AWG	163 348	W163 (3) -------	U163 (1) U2CABT (1)	------- U2CABT (1)	U163 (1) U2CABT (1)	U163 (1) U2CABT (1)	Gold (2)	Gold (2)	45 (2)	1/2 (2)
40025	2 AWG	163 348	W163 (3) -------	U163 (1) U2CABT (1)	------- U2CABT (1)	U163 (1) U2CABT (1)	U163 (1) U2CABT (1)	Gold (2)	Gold (2)	45 (2)	1/2 (2)
40028	1 AWG	163 348	W163 (3) -------	U163 (1) U2CABT (1)	------- U2CABT (1)	U163 (1) U2CABT (1)	U163 (1) U2CABT (1)	Gold (2)	Gold (2)	45 (1)	1/2 (2)
40029	1 AWG	163 348	W163 (3) -------	U163 (1) U2CABT (1)	------- U2CABT (1)	U163 (1) U2CABT (1)	U163 (1) U2CABT (1)	Gold (2)	Gold (2)	45 (1)	1/2 (2)
40032	1/0 AWG	BG 243	W-BG (2) W243 (2)	U-BG (2) U243 (1)	------- -------	U-BG (2) U243 (1)	U-BG (2) U243 (1)	Tan (3)	Tan (3)	52 (1)	5/8 (3)
40033	1/0 AWG	BG 243	W-BG (2) W243 (2)	U-BG (2) U243 (1)	------- -------	U-BG (2) U243 (1)	U-BG (2) U243 (1)	Tan (3)	Tan (3)	52 (1)	5/8 (3)
40037	2/0 AWG	297	-------	U26ART (2)	U26ART (2)	U26ART (2)	U26ART (2)	Olive (3)	Olive (3)	58 (2)	5/8-1 (3)
40041	3/0 AWG	167 467	------- -------	U167 (2) U27ART (3)	------- U27ART (3)	U167 (2) U27ART (3)	U167 (2) U27ART (3)	Ruby (3)	Ruby (3)	66 (1)	-------
40045	4/0 AWG	296	-------	U28ART (2)	U28ART (2)	U28ART (2)	U28ART (2)	-------	White (3)	71H (3)	640 (3)
40046	4/0 AWG	296	-------	U28ART (2)	U28ART (2)	U28ART (2)	U28ART (2)	-------	White (3)	71H (3)	640 (3)
40049	250 kcmil	249	W249 (2)	U249 (1)	-------	U249 (1)	U249 (1)	-------	Red (2)	76 (1)	640 (3)
40050	250 kcmil	249	W249 (2)	U249 (1)	-------	U249 (1)	U249 (1)	-------	Red (2)	76 (1)	640 (3)
40053	300 kcmil	251 470	------- -------	U251 (2) U30ART (2)	------- U30ART (2)	U251 (2) U30ART (2)	U251 (2) U30ART (2)	--------	Blue (3)	87H (2)	1 (3)
40056	350 kcmil	299 655	------- -------	U31ART (2) U655 (2)	U31ART (2) -------	U31ART (2) U655 (2)	U31ART (2) U655 (2)	-------	Brown (4)	96 (2)	1 1/8-1 (2)
40057	350 kcmil	299 655	------- -------	U31ART (2) U655 (2)	U31ART (2) -------	U31ART (2) U655 (2)	U31ART (2) U655 (2)	-------	Brown (4)	96 (2)	1 1/8-1 (2)
40067	500 kcmil	300 317	------- -------	U34ART (4) U317 (3)	U34ART (4) -------	U34ART (4) U317 (3)	U34ART (4) U317 (3)	-------	-------	106A (2)	1 5/16 (3)
40073	750 kcmil	608 786 936	------- ------- -------	U608 (2) U786* -------	------- ------- U39ART-2(3)	U608 (2) S786* U39ART-2 (3)	U608 (2) P786* U39ART-2 (3)	-------	-------	125H (2)	1 1/2 (3)
40079	1000 kcmil	292 302 319 352	------- ------- ------- -------	------- ------- ------- -------	------- ------- ------- -------	S292 (4) S44ART (4) S319 (3) S352 (3)	P292 (2) P44ART (2) P319 (2) P352 (2)	-------	-------	161 (2)	1 3/4 (3)

* Install as many crimps as possible without overlapping.

( ) Indicates minimum number of crimps for each cable insertion. Overlapping of crimps in order to obtain specified number is permissible.

3M™ Scotchlok™ Copper/Aluminum Compression Lugs, 40000 Series

Crimping Tool Recommendations, *continued* [Dimensions in Inches and (Millimeters)]

Two-Hole Lug Crimping Tool – Die Sets (# of Crimps)

3M™ Scotchlok™ Lug Number	Conductor Size AWG or kcmil (MCM)	Burndy Corporation						Thomas & Betts			Kearney
		Die Index	MD6	Y35	Y39	Y45	Y46	TBM5	TBM 8	TBM15	WH2,052
40132	1/0 AWG	BG 243	W-BG (2) W243 (2)	U-BG (2) U243 (1)	------- -------	U-BG (2) U243 (1)	U-BG (2) U243 (1)	Tan (3)	Tan (3)	52 (1)	5/8 (3)
40137	2/0 AWG	297	-------	U26ART (2)	U26ART (2)	U26ART (2)	U26ART (2)	Olive (3)	Olive (3)	58 (2)	5/8-1 (3)
40141	3/0 AWG	167 467	------- -------	U167 (2) U27ART (3)	------- U27ART (3)	U167 (2) U27ART (3)	U167 (2) U27ART (3)	Ruby (3)	Ruby (3)	66 (1)	-------
40145	4/0 AWG	296	-------	U28ART (2)	U28ART (2)	U28ART (2)	U28ART (2)	-------	White (3)	71H (3)	640 (3)
40149	250 kcmil	249	W249 (2)	U249 (1)	-------	U249 (1)	U249 (1)	-------	Red (2)	76 (1)	640 (3)
40153	300 kcmil	251 470	------- -------	U251 (2) U30ART (2)	------- U30ART (2)	U251 (2) U30ART (2)	U251 (2) U30ART (2)	--------	Blue (3)	87H (2)	1 (3)
40156	350 kcmil	299 655	------- -------	U31ART (2) U655 (2)	U31ART (2) -------	U31ART (2) U655 (2)	U31ART (2) U655 (2)	-------	Brown (4)	96 (2)	1 1/8-1 (2)
40160	400 kcmil	472 655	------- -------	U32ART (3) U655 (2)	U32ART (3) -------	U32ART (3) U655 (2)	U32ART (3) U655 (2)	-------	-------	96 (2)	1 1/8-1 (2)
40166	500 kcmil	300 317	------- -------	U34ART (4) U317 (3)	U34ART (4) -------	U34ART (4) U317 (3)	U34ART (4) U317 (3)	-------	-------	106A (2)	1 5/16 (3)
40170	600 kcmil	473 786 936	------- ------- -------	U36ART (3) U786* -------	U36ART (3) ------- U39ART-2(2)	U36ART (3) S786* U39ART-2 (2)	U36ART (3) P786* U39ART-2 (2)	-------	--------	115H (3)	1 5/16 (3)
40172	750 kcmil	608 786 936	------- ------- -------	U608 (2) U786* -------	------- ------- U39ART-2(3)	U608 (2) S786* U39ART-2 (3)	U608 (2) P786* U39ART-2 (3)	-------	-------	125H (2)	1 1/2 (3)
40178	1000 kcmil	292 302 319 352	------- ------- ------- -------	------- ------- ------- -------	------- ------- ------- -------	S292 (4) S44ART (4) S319 (3) S352 (3)	P292 (2) P44ART (2) P319 (2) P352 (2)	-------	-------	161 (2)	1 3/4 (3)

***** Install as many crimps as possible without overlapping.

( ) Indicates minimum number of crimps for each cable insertion. Overlapping of crimps in order to obtain specified number is permissible.

Shelf Life & Storage

The 3M™ Scotchlok™ Copper/Aluminum Compression Lugs, 40000 Series has a 5-year shelf life from date of manufacture when stored in humidity controlled storage (10°C/50°F to 27°C/80°F and <75% relative humidity). Components of the lugs are not impaired by freezing or overheating due to ambient temperatures found in typical storage or shipping. Normal stock rotation procedures are recommended.

Availability

Please contact your local distributor; available from 3M.com/electrical [Where to Buy] or call 1.800.245.3573.

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