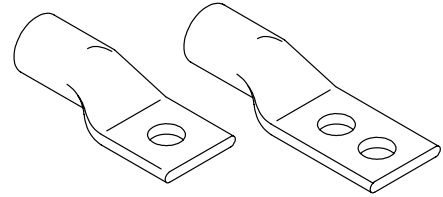




# Scotchlok™ Copper Compression Lugs

## 30000 Series



## Data Sheet

### 1. Product Description

Scotchlok™ Copper Compression Lugs consist of a series of terminal lugs from 6 AWG through 1,000 kcmil (MCM) designed for terminating copper conductors. Each lug is tin plated to resist corrosion and can be installed with standard industry tooling. Chamfered ends ensure ease of insertion and closed end barrels exclude moisture.

The Scotchlok lugs consist of a series of one-hole lugs from 6 AWG through 4/0, one-hole long-barreled lugs from 2/0 through 500 kcmil and two-hole long-barreled lugs from 4/0 through 1,000 kcmil.

#### The lug features are:

- One-piece, seamless tin-plated copper.
- Simple application using readily available tools.
- Chamfered ends for ease of conductor insertion.
- U.L. Listed, CSA Certified.
- Standard and long-barrel lugs with one-hole pads and long-barrel lugs with two-hole pads are available in most sizes.

### 2. Applications

- To terminate copper conductors from 6 AWG through 1,000 kcmil.
- Indoor and outdoor.
- Low voltage and high voltage (up to 35 kV).
- Long-barreled lugs are available for extra crimping requirements.
- For maximum secureness requirements, two-hole lugs are available in large sizes.

### 3. Data

#### Physical and Electrical

The Scotchlok 30000 series copper lugs, crimped with approved die sets, can be used on cables with a rated operating temperature of 90°C and an emergency overload rating of 130°C.

The lugs pass the requirements of UL 486A, Underwriters Laboratories standards for safety. The current rating of these lugs meets or exceeds the current rating of the conductor size for which it is intended.

#### A. Dimension

(see Table 1 on page 2)

#### B. Crimping Tool-Die Recommendations

(see Table 2 on page 3)

### 4. Specifications

#### Product

Lugs must be constructed of seamless copper and tin plated according to ASTM B454–71, Class Cu/Sn8. They must be available in one-hole standard-barreled lengths from No. 6 AWG through 4/0, one-hole long-barreled lengths from 2/0 through 500 kcmil (MCM) and two-hole long-barreled lengths from 4/0 through 1,000 kcmil. The lugs when crimped with the approved die sets must have a current-carrying capacity equal to the conductors for which they are rated.

#### Engineering/Architectural

Lugs shall be crimped with one of the approved die sets according to the engineering information supplied with the connectors. (See Crimping Tool and Die Set Table). All terminations of copper stranded wires in sizes 6 AWG through 1,000 kcmil shall be made electrically and mechanically secure with Scotchlok Copper Compression Lugs. The lugs must have a current-carrying capacity equal to the conductors they are rated for and must also meet the requirements as listed in U.L. 486A test standards.

### 5. Performance Tests

#### A. Physical and Electrical Properties

Material – Lug: Copper, C.D.A. 120  
Plating: Tin plated, minimum thickness 0.0001 inches

Voltage Rating – Low and High voltage (up to 35 kV)

Current Rating – Same as each conductor for which connector is rated

#### B. U.L. 486

Scotchlok lugs crimped with the approved die sets pass the series of tests as found in U.L. 486, Underwriters Laboratories standards for safety.

## A. Dimensions

LUG DIMENSION AND SELECTION GUIDE											
Dimensions in Inches and (Millimeters)											
Scotchlok Lug Number	Conductor Size (AWG or kcmil)	I.D.	O.D.	B Barrel Length	P Pad Length	W Pad Width	L Length	C Hole to End	C Hole to Hole	Stud Size	Color Code
30014	6	0.19 (5,0)	0.29 (7,4)	0.75 (19,1)	0.75 (19,1)	0.43 (11,0)	1.78 (45,2)	0.37 (9,5)	—	10	Blue
30015	6	0.19 (5,0)	0.29 (7,4)	0.75 (19,1)	0.75 (19,1)	0.43 (11,0)	1.78 (45,2)	0.37 (9,5)	—	1/4"	Blue
30016	6	0.19 (5,0)	0.29 (7,4)	0.75 (19,1)	0.75 (19,1)	0.43 (11,0)	1.780 (45,2)	0.37 (9,5)	—	5/16"	Blue
30018	4	0.24 (6,2)	0.34 (8,6)	0.75 (19,1)	0.89 (22,6)	0.48 (12,3)	1.94 (49,3)	0.37 (9,5)	—	10	Grey
30019	4	0.24 (6,2)	0.34 (8,6)	0.75 (19,1)	0.89 (22,6)	0.48 (12,3)	1.94 (49,3)	0.37 (9,5)	—	1/4"	Grey
30021	4	0.24 (6,2)	0.34 (8,6)	0.75 (19,1)	0.89 (22,6)	0.59 (15,1)	1.94 (49,3)	0.37 (9,5)	—	3/8"	Grey
30022	2	0.30 (7,8)	0.41 (10,5)	0.81 (20,7)	0.89 (22,6)	0.63 (15,9)	1.97 (50,0)	0.37 (9,5)	—	1/4"	Brown
30023	2	0.30 (7,8)	0.41 (10,5)	0.81 (20,7)	0.89 (22,6)	0.63 (15,9)	1.97 (50,0)	0.37 (9,5)	—	5/16"	Brown
30024	2	0.30 (7,8)	0.41 (10,5)	0.81 (20,7)	0.89 (22,6)	0.63 (15,9)	1.97 (50,0)	0.37 (9,5)	—	3/8"	Brown
30027	1	0.35 (9,1)	0.46 (11,7)	0.81 (20,7)	0.75 (19,1)	0.69 (17,4)	1.97 (50,0)	0.37 (9,5)	—	5/16"	Green
30028	1	0.35 (9,1)	0.46 (11,7)	0.81 (20,7)	0.75 (19,1)	0.69 (17,4)	1.97 (50,0)	0.37 (9,5)	—	3/8"	Green
30031	1/0	0.39 (10,0)	0.51 (13,0)	0.81 (20,7)	0.89 (22,6)	0.75 (19,0)	2.16 (54,8)	0.37 (9,5)	—	5/16"	Pink
30032	1/0	0.39 (10,0)	0.51 (13,0)	0.81 (20,7)	0.89 (22,6)	0.75 (19,0)	2.16 (54,8)	0.37 (9,5)	—	3/8"	Pink
30036	2/0	0.43 (11,2)	0.56 (14,2)	0.87 (22,2)	1.11 (28,2)	0.81 (20,6)	2.37 (60,2)	0.37 (9,5)	—	3/8"	Black
31036	2/0	0.43 (11,2)	0.56 (14,2)	1.44 (36,5)	0.89 (22,6)	0.81 (20,6)	2.84 (72,2)	0.37 (9,5)	—	3/8"	Black
30041	3/0	0.49 (12,4)	0.62 (15,8)	0.94 (23,8)	1.11 (28,2)	0.91 (23,0)	2.63 (66,8)	0.53 (13,4)	—	1/2"	Orange
31041	3/0	0.49 (12,4)	0.62 (15,8)	1.44 (36,5)	1.11 (28,2)	0.91 (23,0)	3.13 (79,5)	0.53 (13,4)	—	1/2"	Orange
30045	4/0	0.54 (13,9)	0.68 (17,4)	0.97 (24,6)	1.11 (28,2)	1.00 (25,4)	2.60 (65,9)	0.53 (13,4)	—	1/2"	Purple
31045	4/0	0.54 (13,9)	0.68 (17,4)	1.56 (39,7)	1.11 (28,2)	1.00 (25,4)	3.32 (84,4)	0.53 (13,4)	—	1/2"	Purple
31145	4/0	0.54 (13,9)	0.68 (17,4)	1.56 (39,7)	3.00 (76,2)	1.00 (25,4)	5.16 (131,0)	0.63 (15,9)	1.75 (44,4)	1/2"	Purple
31049	250	0.59 (15,1)	0.75 (19,0)	1.50 (38,0)	1.11 (28,2)	1.13 (28,6)	3.38 (85,8)	0.53 (13,4)	—	1/2"	Yellow
31149	250	0.59 (15,1)	0.75 (19,0)	1.56 (39,7)	3.00 (76,2)	1.13 (28,6)	5.31 (134,9)	0.63 (15,9)	1.75 (44,4)	1/2"	Yellow
31053	300	0.65 (16,5)	0.81 (20,6)	1.94 (49,2)	1.09 (27,8)	1.22 (30,9)	3.78 (96,0)	0.53 (13,4)	—	1/2"	White
31153	300	0.65 (16,5)	0.81 (20,6)	1.94 (49,2)	3.00 (76,2)	1.22 (30,9)	5.75 (146,0)	0.63 (15,9)	1.75 (44,4)	1/2"	White
31056	350	0.70 (17,8)	0.88 (22,4)	1.94 (49,2)	1.09 (27,8)	1.31 (33,4)	3.85 (97,6)	0.53 (13,4)	—	1/2"	Red
31156	350	0.70 (17,8)	0.87 (22,2)	1.94 (49,2)	3.00 (76,2)	1.31 (33,4)	5.75 (146,0)	0.63 (15,9)	1.75 (44,4)	1/2"	Red
31060	400	0.76 (19,3)	0.95 (24,1)	2.00 (50,8)	1.34 (34,2)	1.41 (35,8)	4.16 (105,7)	0.63 (15,9)	—	1/2"	Blue
31160	400	0.76 (19,3)	0.95 (24,1)	2.12 (53,8)	3.00 (76,2)	1.41 (35,8)	6.00 (152,4)	0.63 (15,9)	1.75 (44,4)	1/2"	Blue
31066	500	0.83 (21,2)	1.06 (27,0)	2.19 (55,6)	1.34 (34,2)	1.53 (38,9)	4.50 (114,3)	0.66 (16,8)	—	1/2"	Brown
31067	500	0.83 (21,2)	1.06 (27,0)	2.19 (55,6)	1.34 (34,2)	1.53 (38,9)	4.50 (114,3)	0.66 (16,8)	—	5/8"	Brown
31166	500	0.83 (21,2)	1.06 (27,0)	2.19 (55,6)	3.00 (76,2)	1.53 (38,9)	6.16 (156,4)	0.63 (15,9)	1.75 (44,4)	1/2"	Brown
31068	600	0.92 (23,4)	1.18 (30,1)	2.60 (66,0)	1.75 (44,4)	1.69 (42,9)	5.12 (130,0)	0.63 (15,9)	—	1/2"	Green
31168	600	0.92 (23,4)	1.18 (30,1)	2.62 (66,5)	3.00 (76,2)	1.69 (42,9)	6.72 (170,6)	0.63 (15,9)	1.75 (44,4)	1/2"	Green
31172	750	1.03 (26,2)	1.29 (33,0)	2.81 (71,5)	3.00 (76,2)	1.72 (43,7)	7.00 (177,8)	0.63 (15,9)	1.75 (44,4)	1/2"	Black
31178	1000	1.17 (29,8)	1.50 (38,1)	2.94 (74,6)	3.00 (76,2)	1.72 (43,7)	7.28 (184,9)	0.63 (15,9)	1.75 (44,4)	1/2"	—

Table 1

## B. Crimping/Tool Recommendations

Scotchlok Copper Lug Number	Conductor Size	Stud Size	CRIMPING TOOL-DIE SETS (NUMBER OF CRIMPS)							
			Burdny Corporation				Thomas & Betts Corporation			Square D Co. Anderson Div.
			MD6	MY29	Y34A	Y35, Y39 Y45*, Y46*	TBM 5	TBM 8	TBM 15	VC6-3, VC6-FT**
30014	6	10	—	6 AWG (1)	—	U5CRT (1)	Blue (1)	Blue (1)	—	Universal (1)
30015	6	1/4"	—	6 AWG (1)	—	U5CRT (1)	Blue (1)	Blue (1)	—	Universal (1)
30016	6	5/16"	—	6 AWG (1)	—	U5CRT (1)	Blue (1)	Blue (1)	—	Universal (1)
30018	4	10	W161 (1)	4 AWG (1)	A4CR (1)	U4CRT (1)	Grey (1)	Grey (1)	—	Universal (1)
30019	4	1/4"	W161 (1)	4 AWG (1)	A4CR (1)	U4CRT (1)	Grey (1)	Grey (1)	—	Universal (1)
30021	4	3/8"	W161 (1)	4 AWG (1)	A4CR (1)	U4CRT (1)	Grey (1)	Grey (1)	—	Universal (1)
30022	2	1/4"	W162 (2)	2 AWG (1)	A2CR (1)	U2CRT (2)	Brown (1)	Brown (1)	33 (1)	Universal (2)
30023	2	5/16"	W162 (2)	2 AWG (1)	A2CR (1)	U2CRT (2)	Brown (1)	Brown (1)	33 (1)	Universal (2)
30024	2	3/8"	W162 (2)	2 AWG (1)	A2CR (1)	U2CRT (2)	Brown (1)	Brown (1)	33 (1)	Universal (2)
30027	1	5/16"	—	1 AWG (1)	A1CR (1)	U1CRT (2)	Green (1)	Green (1)	37 (1)	Universal (2)
30028	1	3/8"	—	1 AWG (1)	A1CR (1)	U1CRT (2)	Green (1)	Green (1)	37 (1)	Universal (2)
30031	1/0	5/16"	W163 (2)	1/0 (1)	A25R (1)	U25RT (1)	Pink (2)	Pink (2)	42H (2)	Universal (1)
30032	1/0	3/8"	W163 (2)	1/0 (1)	A25R (1)	U25RT (1)	Pink (2)	Pink (2)	42H (2)	Universal (1)
30036	2/0	3/8"	W241 (2)	2/0 (1)	A26R (1)	U26RT (2)	Black (2)	Black (2)	45 (1)	Universal (1)
31036	2/0	3/8"	W241 (3)	2/0 (2)	A26R (2)	U26RT (3)	Black (3)	Black (3)	45 (2)	Universal (2)
30041	3/0	1/2"	W243 (2)	3/0 (1)	A27R (1)	U27RT (2)	Orange (2)	Orange (2)	50 (1)	Universal (2)
31041	3/0	1/2"	W243 (3)	3/0 (2)	A27R (2)	U27RT (3)	Orange (3)	Orange (3)	50 (2)	Universal (3)
30045	4/0	1/2"	BG (3)	4/0 (1)	A28R (2)	U28RT (2)	Purple (2)	Purple (2)	54H (2)	Universal (2)
31045	4/0	1/2"	BG (4)	4/0 (2)	A28R (2)	U28RT (3)	Purple (3)	Purple (3)	54H (3)	Universal (3)
31145	4/0	1/2"	BG (4)	4/0 (2)	A28R (2)	U28RT (3)	Purple (3)	Purple (3)	54H (3)	Universal (3)
31049	250	1/2"	W166 (4)	250 (2)	A29R (2)	U29RT (3)	Yellow (2)	Yellow (2)	62 (2)	Universal (2)
31149	250	1/2"	W166 (4)	250 (2)	A29R (2)	U29RT (3)	Yellow (2)	Yellow (2)	62 (2)	Universal (2)
31053	300	1/2"	—	—	A30R (2)	U30RT (3)	—	White (3)	66 (3)	Universal (3)
31153	300	1/2"	—	—	A30R (2)	U30RT (3)	—	White (3)	66 (3)	Universal (3)
31056	350	1/2"	—	—	A31R (2)	U31RT (3)	—	Red (4)	71H (4)	—
31156	350	1/2"	—	—	A31R (2)	U31RT (3)	—	Red (4)	71H (4)	—
31060	400	1/2"	—	—	A32R (2)	U32RT (3)	—	Blue (4)	76H (4)	—
31160	400	1/2"	—	—	A32R (2)	U32RT (3)	—	Blue (4)	76H (4)	—
31066	500	1/2"	—	—	A34R (2)	U34RT (3)	—	Brown (4)	87H (4)	—
31067	500	5/8"	—	—	A34R (2)	U34RT (3)	—	Brown (4)	87H (4)	—
31166	500	1/2"	—	—	A34R (2)	U34RT (3)	—	Brown (4)	87H (4)	—
31068	600	1/2"	—	—	—	U36RT (3)	—	Green (4)	94H (4)	—
31168	600	1/2"	—	—	—	U36RT (3)	—	Green (4)	94H (4)	—
31172	750	1/2"	—	—	—	Y39, Y45, Y46: U39RT (5)	—	—	106H (4)	—
31178	1000	1/2"	—	—	—	Y45: S44RT (6) Y46: P44RT (6)	—	—	125H (4)	—

\* Y45 and Y46 accept all Y35 dies ("U" series). For Y45 use PT6515 adapter. For Y46 use PUADP adapter.

\*\* Anderson VC6-3 and VC6-FT require no die set.

Table 2

## 6. Installation Techniques

Make connections for Scotchlok compression lugs with the approved crimping tool and die sets as listed in *Table 2, page 3*. When inserting conductor, make sure end is pushed tight against end of lug barrel. When crimping lug, if more than one crimp per end is required, make initial crimp closest to the pad of the lug.

If any flash or sharp points exist on lugs after crimping, they should be removed or smoothed out.

## 7. Availability

Scotchlok Copper Compression Lugs are available in the following quantities shown in *Table 3* and can be ordered from your local authorized 3M electrical distributor.

Scotchlok Lug Number	Conductor Size (AWG or kcmil)	Packaging Carton
30014	6	50
30015	6	50
30016	6	50
30018	4	50
30019	4	50
30021	4	50
30022	2	25
30023	2	25
30024	2	25
30027	1	10
30028	1	10
30031	1/0	10
30032	1/0	10
30036	2/0	10
31036	2/0	10
30041	3/0	10
31041	3/0	10
30045	4/0	10
31045	4/0	10
31145	4/0	10
31049	250	10
31149	250	10
31053	300	10
31153	300	10
31056	350	10
31156	350	10
31060	400	10
31160	400	10
31066	500	10
31166	500	10
31067	500	10
31068	600	6
31168	600	6
31172	750	6
31178	1000	6

**Table 3**

'3M', 'Scotchlok' and 'Scotch' are trademarks of 3M.

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