



Introduction

Color-Keyed® Special Lugs for Special Problems — Angled, Shaped and Flared the Way You Need Them

Thomas & Betts can solve your difficult wire bending and terminating problems in confined power distribution panels, switchgear and motor control enclosures.

We have the design and production capability to deliver exactly the type lug you need, shaped the way you need.

- Straight, 45° and 90° angle
- Stacking or non-stacking
- Narrow-tongue or standard
- Tin, silver and nickel plating available

Thomas & Betts offers an extensive line of copper Color-Keyed® lugs for #8 AWG through 1000 kcmil flex and code cables. The lug tongues are modified in several different configurations to meet your exact needs: 45° and 90° bend angles, narrow-tongues to fit into circuit breakers, offset tongues to stack two cables and special stud hole drilling. These special configurations let you:

1. Run cable directly to the bus bar with no bending
2. Terminate into very narrow spaces
3. Utilize minimal bus bar space

The specially designed lugs help you “clean up” your cabling in crowded enclosures.

The pictures show some examples of how and where the lugs can be used.



Customized Color-Keyed® Connectors for Copper Cables

- Standard and special tongue angles, stacking and non-stacking, bolt holes sizes and centers, protective platings.
- Specially modified one and two hole copper Color-Keyed® compression lugs, Series 54100, 54200, 54850BE and 54930BE for flex and code copper stranded cables. Material: high-conductivity wrought copper.
- Minimum order quantity: Standard package quantity by cable size. Consult your Regional Sales Office for price and delivery. All customized lugs are made to order and cannot be cancelled.



Introduction

Order Form (to be scanned or photocopied)

Catalogue No. _____ Qty. _____

Design Controls and Requirements

All "MADE-UP" catalogue numbers start with a standard or basic catalogue number and are followed by the customer-required extra features: Tongue shape, bolt hole size, distance between bolt holes, stacking, plating and inspection hole (peep hole). A code letter or a number has been assigned to each extra feature. See CODE CABLE TABLE below.

- Notes: 1) Lack of any of the extra features on the "MADE-UP" catalogue number means that the standard Cat. No. features are prevalent.
 2) If either bolt hole size or distance between bolt holes needs to be changed from standard Cat. No., both code numbers will appear on the "MADE-UP" Cat. No. (see example below).

Cat. No. 54212UB0416BSP

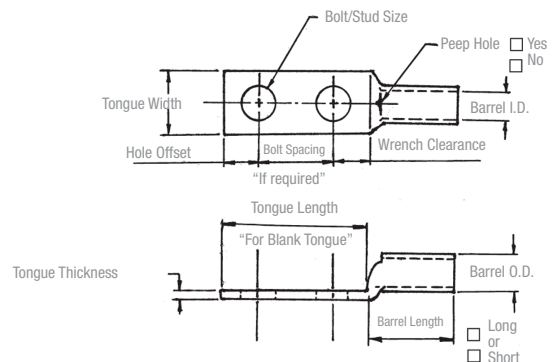
| | | | | |
|--|-------------|----------------------|-----------------------|-----------------|
| 54212 | UB | 04 | 16 | B |
| 2 hole 4/0 Cu lug basic cat. no. | 90° bend | 1/4 in. bolt hole | 1 in. hole spacing | bottom stack |

Code Cable Table

| Tongue Shape | | Bolt Holes Size .020 | | Code | Bolt Hole Centers | | Stacking | | Finish (Plating) | | Inspection Hole (Long Barrel) | | Inspection Hole (Short Barrel) | |
|----------------|------|----------------------|-------|------|------------------------|------|----------|------|------------------|------|-------------------------------|------|--------------------------------|------|
| Type | Code | | | | Center to Center (in.) | Code | Type | Code | Type 1 | Code | I.D. | Code | I.D. | Code |
| 45° | UF | #8 | 0.173 | 02 | 1/2 | 08 | Top | T** | Silver | SP | Peep Hole | PH | Blind End | BE |
| 90° | UB | #10 | 0.204 | 03 | 5/8 | 10 | Bottom | B | Lead | LP | | | | |
| Blank | BT | 1/4 | 0.281 | 04 | 3/4 | 12 | | | Nickel | NP | 150° | | | |
| (No Bolt Hole) | | 5/16 | 0.344 | 05 | 7/8 | 14 | | | Plain Finish | PF | | | | |
| | | 3/8 | 0.406 | 06 | 1 | 16 | | | No Marking | NM | | | | |
| | | 1/2 | 0.531 | 08 | 1-1/8 | 18 | | | | | | | | |
| | | 5/8 | 0.656 | 10 | 1-1/4 | 20 | | | | | | | | |
| | | 3/4 | 0.812 | 12 | 1-3/8 | 22 | | | | | | | | |
| | | 1/8 | 0.937 | 14 | 1-1/2 | 24 | | | | | | | | |
| | | 1 | 1.062 | 16 | 1-5/8 | 26 | | | | | | | | |
| | | | | | 1-3/4 | 28 | | | | | | | | |
| | | | | | *1-7/8 | 30 | | | | | | | | |
| | | | | | *2 | 32 | | | | | | | | |

* These bolt centers are not available for bolt holes larger than 13/16 in.
 ** Not required for 45° & 90° Top Stacking.

| | | |
|---|------------------------------|------------------------------|
| Cable | Code | <input type="checkbox"/> |
| | Weld | <input type="checkbox"/> |
| <input type="checkbox"/> #8 | <input type="checkbox"/> #6 | <input type="checkbox"/> #4 |
| <input type="checkbox"/> #2 | <input type="checkbox"/> #1 | <input type="checkbox"/> 1/0 |
| <input type="checkbox"/> 2/0 | <input type="checkbox"/> 3/0 | <input type="checkbox"/> 4/0 |
| <input type="checkbox"/> 250 kcmil & up (Code cable Only) | | |



Introduction

Tongue Specifications — See Chart “A” for Dimensions

| Stud Sizes | | |
|-----------------------------------|----------------------------------|----------------------------------|
| <input type="checkbox"/> #8 | <input type="checkbox"/> #10 | <input type="checkbox"/> 1/4 in. |
| <input type="checkbox"/> 5/16 in. | <input type="checkbox"/> 3/8 in. | <input type="checkbox"/> 1/2 in. |
| <input type="checkbox"/> 5/8 in. | <input type="checkbox"/> 3/4 in. | <input type="checkbox"/> 7/8 in. |
| <input type="checkbox"/> 1 in. | | |



Chart A

| Nominal Bolt Hole | Hole Offset | Min. Wrench Clearance | Tongue Width Cable Size | | | | | | | | | | |
|-------------------|-------------|-----------------------|-------------------------|-----------------|---------|-----------------|-----------------|------------------|-------------------|-------------------|-------------------|----------|-------|
| | | | #8 Code #8 Weld | #6 Code #6 Weld | #4 Code | #2 Code #4 Weld | #1 Code #2 Weld | 1/0 Code #1 Weld | 2/0 Code 1/0 Weld | 3/0 Code 2/0 Weld | 4/0 Code 3/0 Weld | 250 Code | |
| #8 | 0.173 | 0.200 | 0.240 | 0.406 | 0.437 | 0.562 | 0.593 | 0.672 | 0.750 | 0.825 | 0.937 | 1.030 | 1.125 |
| #10 | 0.204 | 0.218 | 0.250 | | | | | | | | | | |
| 1/4 | 0.281 | 0.250 | 0.312 | 0.469 | 0.500 | | 0.675 | | | | | | |
| 5/16 | 0.344 | 0.375 | 0.406 | 0.562 | 0.562 | 0.750 | 0.750 | | | | | | |
| 3/8 | 0.406 | 0.375 | 0.440 | 0.578 | 0.578 | 0.594 | | | | | | | |
| 1/2 | 0.531 | 0.500 | 0.562 | | | | | | | | | | |
| 5/8 | 0.656 | 0.812 | 0.875 | | | | | | | | | | |
| 3/4 | 0.812 | 0.750 | 0.770 | - | - | - | - | - | - | - | - | - | - |
| *7/8 | 0.937 | 0.875 | 0.890 | | | | | | | | | | |
| *1 | 1.062 | 0.937 | 1.000 | | | | | | | | | | |

* These bolt holes are available in one hole lug only. Dimensions are in inches.

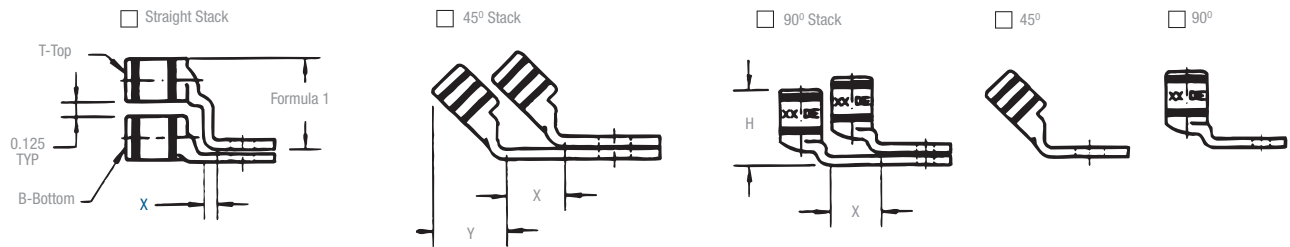
Chart B

| Cable Size | Tongue Thickness | Straight Lug Barrel Length | | Barrel | | Dim. "X" Stacked Lugs | | | Dim. "Y" | | Dim. "H" | |
|------------|------------------|----------------------------|-------|--------|-------|-----------------------|-------|-------|----------|-------|----------|-------|
| | | Short | Long | O.D. | I.D. | Straight | 45° | 90° | Short | Long | Short | Long |
| #8 | 0.080 | 0.635 | 0.935 | 0.260 | 0.180 | 0.158 | 0.478 | 0.394 | 0.595 | 0.808 | 0.779 | 1.079 |
| #6 | 0.081 | 0.675 | 0.975 | 0.296 | 0.215 | 0.134 | 0.544 | 0.432 | 0.587 | 0.799 | 0.767 | 10.67 |
| #4 | 0.099 | 0.685 | 0.985 | 0.365 | 0.266 | 0.175 | 0.622 | 0.502 | 0.637 | 0.849 | 0.838 | 1.138 |
| #2 | 0.108 | 0.815 | 1.115 | 0.410 | 0.302 | 0.216 | 0.649 | 0.535 | 0.711 | 0.923 | 0.958 | 1.258 |
| #1 | 0.106 | 0.825 | 1.275 | 0.467 | 0.361 | 0.212 | 0.731 | 0.592 | 0.710 | 1.028 | 0.956 | 1.406 |
| 1/0 | 0.125 | 0.975 | 1.325 | 0.520 | 0.396 | 0.250 | 0.789 | 0.646 | 0.794 | 1.042 | 1.075 | 1.425 |
| 2/0 | 0.125 | 0.965 | 1.315 | 0.571 | 0.446 | 0.250 | 0.859 | 0.696 | 0.829 | 1.077 | 1.125 | 1.475 |
| 3/0 | 0.125 | 1.085 | 1.435 | 0.632 | 0.507 | 0.250 | 0.946 | 0.757 | 0.900 | 1.148 | 1.225 | 1.575 |
| 4/0 | 0.137 | 1.255 | 1.705 | 0.701 | 0.564 | 0.274 | 1.031 | 0.826 | 1.015 | 1.333 | 1.387 | 1.837 |
| 250 | 0.137 | 1.375 | 1.925 | 0.766 | 0.629 | 0.274 | 1.123 | 0.891 | 1.085 | 1.474 | 1.487 | 2.037 |
| 300 | 0.153 | 1.900 | 2.675 | 0.850 | 0.660 | 0.459 | 1.226 | 0.975 | 1.180 | 1.726 | 1.924 | 2.679 |
| 350 | 0.177 | 2.090 | 2.896 | 0.926 | 0.720 | 0.531 | 1.333 | 1.103 | 1.267 | 1.830 | 2.096 | 2.896 |
| 400 | 0.173 | 2.460 | 2.980 | 0.960 | 0.757 | 0.519 | 1.370 | 1.085 | 1.551 | 1.913 | 2.484 | 2.984 |
| 500 | 0.218 | 2.670 | 3.610 | 1.100 | 0.852 | 0.654 | 1.514 | 1.225 | 1.629 | 2.266 | 2.669 | 3.619 |
| 600 | 0.244 | 2.900 | 3.490 | 1.200 | 0.926 | 0.732 | 1.630 | 1.325 | 1.762 | 2.147 | 2.897 | 3.497 |
| 700 | 0.228 | 2.784 | - | 1.255 | 0.997 | 0.684 | 1.662 | 1.375 | 1.780 | - | 3.011 | - |
| 750 | 0.270 | 3.050 | 3.925 | 1.330 | 1.030 | 0.810 | 1.745 | 1.455 | 1.827 | 2.434 | 3.050 | 3.925 |
| 800 | 0.266 | 3.213 | - | 1.375 | 1.079 | 0.800 | 1.728 | 1.625 | 1.952 | 2.787 | 3.213 | 4.554 |
| 900 | 0.313 | 3.450 | 4.550 | 1.500 | 1.145 | 0.940 | 1.900 | 1.650 | 2.065 | - | 1.387 | - |
| 1,000 | 0.297 | 3.356 | 4.500 | 1.550 | 1.203 | 0.890 | 2.070 | 1.675 | 2.031 | 2.787 | 1.487 | 4.506 |

Stacking lugs are available for one bolt only. Consult your Regional Sales Office for details. Straight: 700 kcmil & up; 45°: 400 kcmil & up; 90°: 500 kcmil & up. Dimensions are in inches.

Introduction

Tongue Specifications — See Chart “A” for Dimensions



Formula 1 = (0.125 + 2 (OD) + 0.037 – Tongue Thickness)

Chart C

| Tongue Width 0.030 / Code Cable Size | | | | | | | | | | | |
|--------------------------------------|-----------------------|-----------|-----------|-----------------------|-----------------------|---------|--------------|--------------|--------------|--------------|---------------|
| Bolt Hole Size | 300 kcmil 4/0 Weld | 350 kcmil | 400 kcmil | 500 kcmil 400 Weld | 600 kcmil 500 Weld | 1325/24 | 700 kcmil | 750 kcmil | 800 kcmil | 900 kcmil | 1000 kcmil |
| #8 | - | - | - | - | - | - | - | - | - | - | - |
| #10 | - | - | - | - | - | - | - | - | - | - | - |
| 1/4 | 1.250 | 1.355 | 1.410 | 1.605 | 1.745 | 1.805 | 1.840 | 1.935 | 2.010 | 2.180 | 2.265 |
| 5/16 | | | | | | | | | | | |
| 3/8 | | | | | | | | | | | |
| 1/2 | | | | | | | | | | | |
| 5/8 | | | | | | | | | | | |
| 3/4 | - | - | - | - | - | - | - | - | - | - | |
| *7/8 | - | - | - | - | - | - | - | - | - | - | - |
| *1 | - | - | - | - | - | - | - | - | - | - | - |

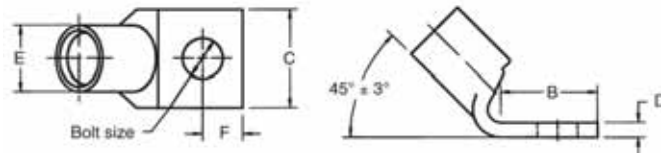
* These bolt holes are available in one hole lug only. Dimensions are in inches.



Compression Connectors for Copper Conductors

One-Hole Lugs — 45° Standard Barrel Certified to 600 V and Recommended up to 35 kV[‡] (cont'd)

Material: High-Conductivity Wrought Copper
Finish: Electro-Tin Plated



| Cat. No. | Wire Size | | Bolt Size | Dimensions in. (mm) | | | | | Die Code | Colour Code |
|------------------|------------|--|-------------|---------------------|-------------|-------------|-------------|-------------|----------|-------------|
| | Code Cable | Flex Cable Classes G, H, I, K, M | | B | C | D | E | F | | |
| 54172UF | 250 kcmil | 4/0 AWG 250 Navy 550/24 | 1/4 | 0.65 (16.5) | 1.13 (28.7) | 0.14 (3.6) | 0.77 (19.6) | 0.25 (6.4) | 62 | Yellow |
| 54173UF | | | 5/16 | 0.88 (22.4) | 1.13 (28.7) | 0.14 (3.6) | 0.77 (19.6) | 0.38 (9.7) | | |
| 54174UF | | | 3/8 | 0.93 (23.6) | 1.13 (28.7) | 0.14 (3.6) | 0.77 (19.6) | 0.38 (9.7) | | |
| 54113UF | | | 1/2 | 1.25 (31.8) | 1.13 (28.7) | 0.14 (3.6) | 0.77 (19.6) | 0.50 (12.7) | | |
| 58168UF | — | 250 Weld 650/24 259/0.0311, 703/0.0189 | 1/2 | 1.25 (31.8) | 1.25 (31.8) | 0.15 (3.8) | 0.85 (21.6) | 0.50 (12.7) | 66 | White |
| 54178UF | 300 kcmil | 250 kcmil 300 Navy 650/24 | 5/16 | 0.88 (22.4) | 1.25 (31.8) | 0.15 (3.8) | 0.85 (21.6) | 0.38 (9.7) | | |
| 54179UF | | | 3/8 | 0.93 (23.6) | 1.25 (31.8) | 0.15 (3.8) | 0.85 (21.6) | 0.38 (9.7) | | |
| 54114UF | | | 1/2 | 1.25 (31.8) | 1.25 (31.8) | 0.15 (3.8) | 0.85 (21.6) | 0.50 (12.7) | | |
| 54181UF | | | 5/8 | 1.58 (40.1) | 1.25 (31.8) | 0.15 (3.8) | 0.85 (21.6) | 0.63 (16.0) | | |
| 58171UF | — | 300 kcmil, 300 Weld 259/0.034, 427/0.0265 889/0.0183 775/24 = 313 kcmil | 1/2 | 1.25 (31.8) | 1.36 (34.5) | 0.18 (4.6) | 0.93 (23.6) | 0.50 (12.7) | 71 | Red |
| 256-30695-112UF | 350 kcmil | 650/24 350 Navy 262 kcmil | 3/8 | 1.25 (31.8) | 1.36 (34.5) | 0.18 (4.6) | 0.93 (23.6) | 0.50 (12.7) | | |
| 54115UF | | | 1/2 | 1.25 (31.8) | 1.36 (34.5) | 0.18 (4.6) | 0.93 (23.6) | 0.50 (12.7) | | |
| 54183UF | | | 5/8 | 1.58 (40.1) | 1.36 (34.5) | 0.18 (4.6) | 0.93 (23.6) | 0.63 (16.0) | | |
| 58174UF | — | 350 Weld 259/0.0368, 427/0.0285 703/0.0224, 889/0.0201 | 1/2 | 1.25 (31.8) | 1.61 (40.9) | 0.22 (5.6) | 1.09 (27.7) | 0.50 (12.7) | 76 | Blue |
| 54116UF | 400 kcmil | 300 kcmil 400 Navy 775/24, 313 kcmil | 1/2 | 1.25 (31.8) | 1.41 (35.8) | 0.17 (4.3) | 0.96 (24.4) | 0.50 (12.7) | | |
| 54185UF | | | 5/8 | 1.58 (40.1) | 1.41 (35.8) | 0.17 (4.3) | 0.96 (24.4) | 0.63 (16.0) | | |
| 256-30695-1403UF | — | 350 kcmil, 400 Weld 925/24 = 373 kcmil | 3/8 | 1.31 (28.7) | 1.61 (40.9) | 0.22 (5.6) | 1.04 (26.4) | 0.63 (16.0) | 80 | — |
| 58177UF | 1/2 | | 1.25 (31.8) | 1.61 (40.9) | 0.22 (5.6) | 1.04 (26.4) | 0.50 (12.7) | | | |
| 54118UF | 500 kcmil | 925/24 500 Navy 400 kcmil | 1/2 | 1.25 (31.8) | 1.61 (40.9) | 0.22 (5.6) | 1.10 (27.9) | 0.50 (12.7) | 87 | Brown |
| 58187UF | | | 5/8 | 1.58 (40.1) | 1.61 (40.9) | 0.22 (5.6) | 1.10 (27.9) | 0.63 (16.0) | | |
| 58180UF | — | 1100/24 = 444 kcmil 500 Weld, 259/0.0417 427/0.0325, 703/0.0253 | 5/8 | 1.58 (40.1) | 1.75 (44.5) | 0.24 (6.1) | 1.20 (30.5) | 0.50 (12.7) | 94 | Green |
| 58120UF | 600 kcmil | 1110/24 = 444 kcmil | 5/8 | 1.58 (40.1) | 1.75 (44.5) | 0.24 (6.1) | 1.20 (30.5) | 0.50 (12.7) | | |
| 54122UF | 700 kcmil | 1325/24 = 500 kcmil | 5/8 | 1.58 (40.1) | 1.84 (46.7) | 0.23 (5.8) | 1.26 (32.0) | 0.50 (12.7) | 99 | Pink |
| 256-30695-840UF | — | 1325/24 = 535 kcmil 427/0.0342 | 1/2 | 1.69 (42.9) | 1.81 (46.0) | 0.28 (7.1) | 1.25 (31.8) | 0.81 (20.6) | | |
| 58182UF | — | | 5/8 | 1.58 (40.1) | 1.81 (46.0) | 0.28 (7.1) | 1.25 (31.8) | 0.63 (16.0) | | |
| 54123UF | 750 kcmil | 1325/24 = 535 kcmil | 5/8 | 1.58 (40.1) | 1.94 (49.3) | 0.27 (6.9) | 1.33 (33.8) | 0.63 (16.0) | 106 | Black |
| 58184UF | — | 1600/24 = 646 kcmil | 5/8 | 1.58 (40.1) | 1.94 (49.3) | 0.27 (6.9) | 1.33 (33.8) | 0.63 (16.0) | | |
| 54124UF | 800 kcmil | 800 Navy | 5/8 | 1.58 (40.1) | 2.01 (51.1) | 0.27 (6.9) | 1.38 (35.1) | 0.63 (16.0) | 107 | Orange |
| 58126UF | 900 kcmil | 1925/24 = 777 kcmil | 5/8 | 1.58 (40.1) | 2.17 (55.1) | 0.31 (7.9) | 1.50 (38.1) | 0.63 (16.0) | 115 | Yellow |
| 58128UF | 1000 kcmil | 1000 Navy | 5/8 | 1.58 (40.1) | 2.27 (57.7) | 0.30 (7.6) | 1.55 (39.4) | 0.63 (16.0) | 125 | — |

‡ For installations from 16 kV up to 35 kV, consult shielded cable manufacturers for stress relief and insulation requirements. Call your Regional Sales Office for sizes not listed.
 Tooling: pp. E4–E62
 Die Selector Chart: pp. E35–E50