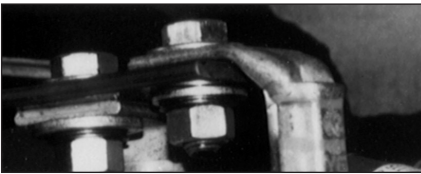
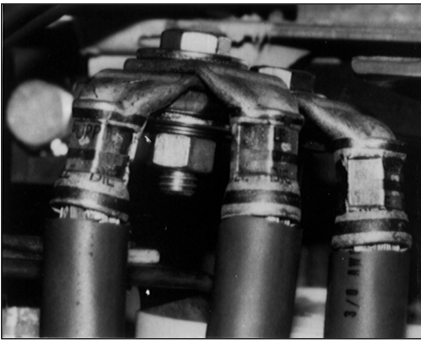
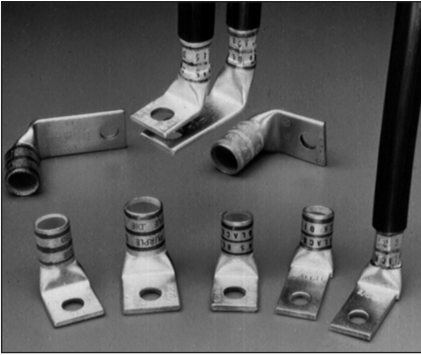


# Color-Keyed®

## Color-Keyed® Connectors



### **Color-Keyed® Special Lugs for Special Problems – Angled, Shaped and Trimmed the Way You Often 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, lead, nickel

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, and
- (3) utilize minimal bus bar space.

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

The photographs 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 factory for price and delivery. All customized lugs are made to order. A.R.O. Non-cancellable.

# Color-Keyed®

## Color-Keyed® Connectors

### Order From

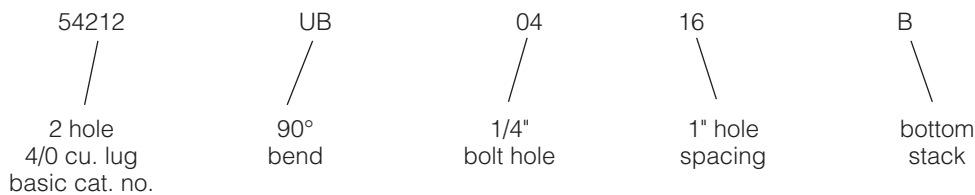
Catalog No. \_\_\_\_\_ Qty. \_\_\_\_\_  
 (For 54100, 54200, 54800 & 54900 Series Copper Lugs Only)

### Design Controls and Requirements

All "MADE-UP" catalog numbers start with a standard or basic catalog 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 TABLE.

- NOTES: 1) Lack of any of the extra features on the "MADE-UP" catalog 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



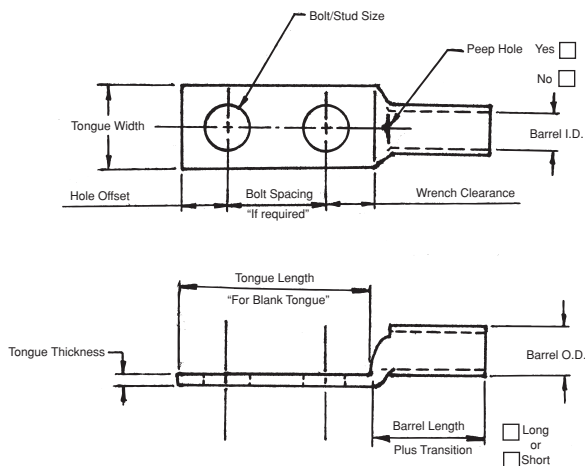
### CODE TABLE

Tongue Shape		Bolt Holes		Bolt Hole Centers		Stacking		Finish (Plating)		Inspection Hole (Long Barrel)		Inspection Hole (Short Barrel)		
Type	Code	Size .020	Code	Distance .015	Code	Type	Code	Type 1	Code	I.D.	Code	I.D.	Code	
45°	UF	#8	.173	02	1/2"	08	Top	T**	Silver Plate	SP	Peep Hole	PH	Blind End	BE
90°	UB	#10	.204	03	5/8"	10	Bottom	B	Lead Plate	LP				
Blank	BT	1/4"	.281	04	3/4"	12			Nickel Plate	NP				
(No Bolt Hole)		5/16"	.344	05	7/8"	14			Plain Finish	PF				
		3/8"	.406	06	1"	16			Not QTP if suffix other					
		1/2"	.531	08	1 1/8"	18			than - PF or standard					
		5/8"	.656	10	1 1/4"	20			tin plate					
		3/4"	.812	12	1 3/8"	22								
		7/8"	.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 not available for bolt holes larger than 1 3/16".

\*\* 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"/> #2	<input type="checkbox"/> #1
<input type="checkbox"/> 2/0	<input type="checkbox"/> 3/0
<input type="checkbox"/> 4/0	<input type="checkbox"/> 250 kcmil & up (Code Only)



**Thomas & Betts**

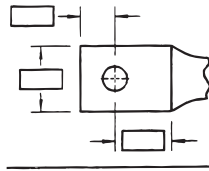
# Color-Keyed®

## Color-Keyed® Connectors

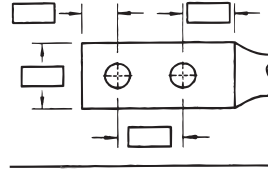
### Tongue Specifications – See Chart “A” For Dimensions

#### Stud Sizes

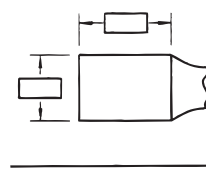
- #8       1/2
- #10     5/8
- 1/4       3/4
- 5/16     7/8
- 3/8       1



Single Hole



Double Hole



Blank

### Chart A

Nominal Bolt Hole Size .015	Hole Offset .030	Wrench Clearance Min.	Tongue Width Cable Size										
			#8 Code #8 Weld	#6 Code #6 Weld	#4 Code #4 Weld	#2 Code #2 Weld	#1 Code #1 Weld	1/0 Code 1/0 Weld	2/0 Code 2/0 Weld	3/0 Code 3/0 Weld	4/0 Code 4/0 Weld	250 Code	
#8	.173	.200	.240	.406	.437	.562	.593	.672	.750	.825	.937	1.030	1.125
#10	.204	.218	.250	.406	.437	.562	.593	.672	.750	.825	.937	1.030	1.125
1/4	.281	.250	.312	.469	.500	.562	.593	.672	.750	.825	.937	1.030	1.125
5/16	.344	.375	.406	.562	.562	.562	.675	.672	.750	.825	.937	1.030	1.125
3/8	.406	.375	.440	.578	.578	.594	.675	.672	.750	.825	.937	1.030	1.125
1/2	.531	.500	.562	-	-	-	.750	.750	.750	.825	.937	1.030	1.125
5/8	.656	.812	.875	-	-	-	-	-	-	-	.937	1.030	1.125
3/4	.812	.750	.770	-	-	-	-	-	-	-	-	-	-
*7/8	.937	.875	.890	-	-	-	-	-	-	-	-	-	-
*1	1.062	.937	1.000	-	-	-	-	-	-	-	-	-	-

\* These bolt holes available in one hole lug only.

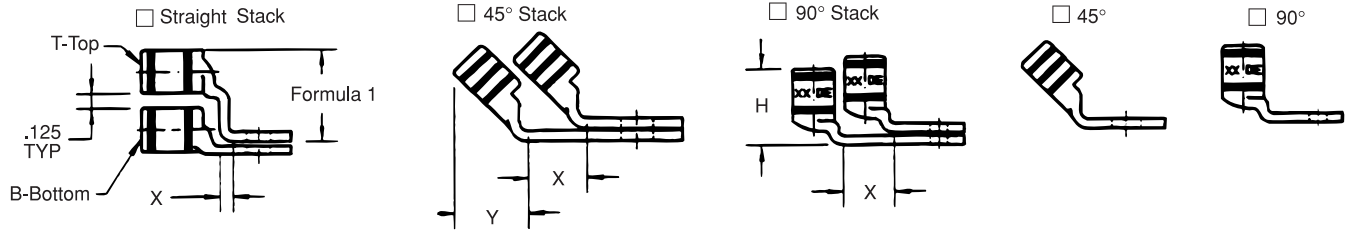
### Chart B

Cable Size	Tongue Thickness	Straight Lug Barrel Length Plus Transition		Barrel		Dim "X" Stacked Lugs			Dim "Y"		Dim "H"	
		Short	Long	O.D.	I.D.	Straight	45°	90°	Short	Long	Short	Long
		#8	.080	.635	.935	.260	.180	.158	.478	.394	.595	.808
#6	.081	.675	.975	.296	.215	.134	.544	.432	.587	.799	.767	1.067
#4	.099	.685	.985	.365	.266	.175	.622	.502	.637	.849	.838	1.138
#2	.108	.815	1.115	.410	.302	.216	.649	.535	.711	.923	.958	1.258
#1	.106	.825	1.275	.467	.361	.212	.731	.592	.710	1.028	.956	1.406
1/0	.125	.975	1.325	.571	.396	.250	.789	.646	.794	1.042	1.075	1.425
2/0	.125	.965	1.315	.571	.446	.250	.859	.696	.829	1.077	1.125	1.475
3/0	.125	1.085	1.435	.632	.507	.250	.946	.757	.900	1.148	1.225	1.575
4/0	.137	1.255	1.705	.701	.564	.274	1.031	.826	1.015	1.333	1.387	1.837
250	.137	1.375	1.925	.766	.629	.274	1.123	.891	1.085	1.474	1.487	2.037
300	.153	1.900	2.675	.850	.660	.459	1.226	.975	1.180	1.726	1.924	2.679
350	.177	2.090	2.896	.926	.720	.531	1.333	1.103	1.267	1.830	2.096	2.896
400	.173	2.460	2.980	.960	.757	.519	1.370	1.085	1.551	1.913	2.484	2.984
500	.218	2.670	3.610	1.100	.852	.654	1.514	1.225	1.629	2.266	2.669	3.619
600	.244	2.900	3.490	1.200	.926	.732	1.630	1.325	1.762	2.147	2.897	3.497
700	.228	2.784	-	1.255	.997	.684	1.662	1.375	1.780	-	3.011	-
750	.270	3.050	3.925	1.330	1.030	.810	1.745	1.455	1.827	2.434	3.050	3.925
800	.266	3.213	-	1.375	1.079	.800	1.728	1.625	1.952	2.787	3.213	4.554
900	.313	3.450	4.550	1.500	1.145	.940	1.900	1.650	2.065	-	1.387	-
1000	.297	3.356	4.500	1.550	1.203	.890	2.070	1.675	2.031	2.787	1.487	4.506

Note: Stacking lugs are available for one bolt only.  
 Consult Factory: Straight: 700 kcmil & up  
 45°: 400 kcmil & up  
 90°: 500 kcmil & up

# Color-Keyed®

## Color-Keyed® Connectors



Formula 1 = (.125 + 2 (OD) + .037 – Tongue Thickness)

### Chart C

Bolt Hole Size	Tongue Width .030 Code Cable Size										
	300 kcmil 4/0 Weld	350 kcmil	400 kcmil	500 kcmil 4/0 Weld	600 kcmil 5/0 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	1.250	1.355	1.410	1.605	1.745	1.805	1.840	1.935	2.010	2.180	2.265
3/8	1.250	1.355	1.410	1.605	1.745	1.805	1.840	1.935	2.010	2.180	2.265
1/2	1.250	1.355	1.410	1.605	1.745	1.805	1.840	1.935	2.010	2.180	2.265
5/8	1.250	1.355	1.410	1.605	1.745	1.805	1.840	1.935	2.010	2.180	2.265
3/4	1.250	1.355	1.410	1.605	1.745	1.805	1.840	1.935	2.010	2.180	2.265
*7/8	–	–	–	1.605	1.745	1.805	1.840	1.935	2.010	2.180	2.265
*1	–	–	–	–	1.745	1.805	1.840	1.935	2.010	2.180	2.265

# Color-Keyed®

## Connectors for Copper Conductor

### One-Hole Lugs - Standard Barrel 600V to 35KV

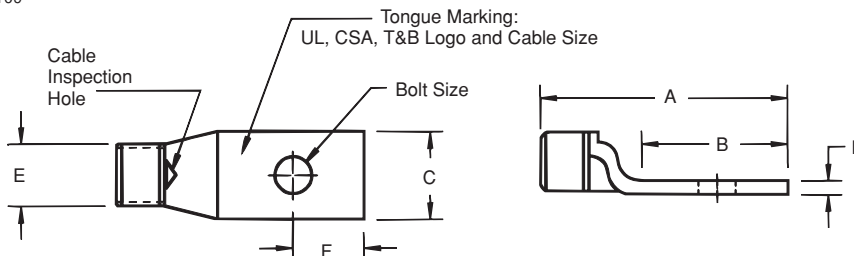
Material: High Conductivity Wrought Copper  
Finish: Electro Tin Plate



Cat. No.	Wire Size		Bolt Size	Dimensions (in.)						Die Code	Die Color
	Code	Flex		A	B	C	D	E	F		
256-30695-1351			#8	1.36	.68	.36	.05	.20	1/4	N/A	N/A
256-30695-1352	#14-10 AWG		1/4	1.36	.68	.41	.05	.20	1/4	N/A	N/A
256-30695-263			1/4	1.69	.81	.50	.07	.20	1/4	N/A	N/A
54104			#10	1.16	.50	.39	.08	.25	7/32	21	RED
54130		23 Navy	1/4	1.20	.61	.45	.07	.25	1/4	21	RED
54131	#8 AWG	#8 Weld	5/16	1.33	.64	.56	.05	.25	9/32	21	RED
54132		37/24 = 14.9 kcmil	3/8	1.33	.64	.56	.05	.25	9/32	21	RED
256-30695-424			1/2	1.75	1.31	1.00	.13	.25	1/2	21	RED
256-30695-1361			#12	1.23	.53	.44	.07	.31	7/32	24	BLUE
54134		#30 Navy	#10	1.23	.53	.44	.07	.31	7/32	24	BLUE
54105		#6 Weld	1/4	1.23	.53	.44	.07	.31	7/32	24	BLUE
54135	#6 AWG	61/24 = 24.6 kcmil	5/16	1.41	.67	.60	.07	.31	5/16	24	BLUE
54136		133/.014	3/8	1.41	.67	.60	.07	.31	5/16	24	BLUE
256-30695-282			3/8	1.41	.75	.56	.06	.31	5/16	24	BLUE
256-30695-422			1/2	1.75	1.31	1.00	.13	.31	1/2	24	BLUE
256-30695-1362			#12	1.38	.60	.55	.09	.37	1/4	29	GREY
54138		40-50 Navy	#10	1.38	.60	.55	.09	.37	1/4	29	GREY
54106		91/24 = 36.7 kcmil	1/4	1.38	.60	.55	.09	.37	1/4	29	GREY
54139	#4 AWG	133/.0177	5/16	1.42	.66	.61	.07	.37	5/16	29	GREY
54140		49/.029	3/8	1.42	.66	.61	.07	.37	5/16	29	GREY
256-30695-233			3/8	1.56	.75	.59	.06	.37	5/16	29	GREY
256-30695-264			1/2	2.20	1.40	1.00	.06	.37	1/2	29	GREY
54107			1/4	1.50	.65	.59	.11	.41	1/4	33	BROWN
54142-TB	#2 AWG	#60 Navy	5/16	1.73	.88	.59	.11	.41	3/8	33	BROWN
54143-TB		125/24 = 50.5 kcmil	3/8	1.65	.80	.59	.11	.41	3/8	33	BROWN
54145-TB		#4 Weld	1/2	1.92	1.08	.75	.08	.41	1/2	33	BROWN
54108		75 Navy, #2 Weld	1/4	1.50	.65	.68	.11	.47	1/4	37	GREEN
54147	#1 AWG	150/24 = 60.5 kcmil	5/16	1.73	.93	.68	.11	.47	3/8	37	GREEN
54148		175/24 = 70.6 kcmil	3/8	1.78	.98	.68	.11	.47	3/8	37	GREEN
54150		133/.0223	1/2	2.10	1.25	.76	.11	.47	1/2	37	GREEN
54152-TB			1/4	1.60	.65	.75	.13	.52	1/4	42	PINK
54153-TB		#100 Navy	5/16	1.83	.88	.75	.13	.52	3/8	42	PINK
54109	1/0 AWG	#1 Weld	3/8	1.88	.93	.75	.13	.52	3/8	42	PINK
54155-TB		225/24 = 90.8 kcmil	1/2	2.20	1.25	.75	.13	.52	1/2	42	PINK
256-30695-1383		133/.0254	5/8	2.54	1.50	.88	.13	.52	5/8	42	PINK
54157		125 Navy	1/4	1.65	.65	.83	.13	.57	1/4	45	BLACK
54158		1/0 Weld	5/16	1.88	.88	.83	.13	.57	3/8	45	BLACK
54110	2/0 AWG	275/24 = 111 kcmil	3/8	1.93	.93	.83	.13	.57	3/8	45	BLACK
54160		427/.0155	1/2	2.25	1.25	.83	.13	.57	1/2	45	BLACK
256-30695-131		133/.0282	5/8	2.56	1.50	.83	.13	.57	5/8	45	BLACK

Tooling: Pg. 79-100

Die Selector Chart: Pg. 105-109



**Thomas & Betts**

# Color-Keyed®

## Connectors for Copper Conductor

### Standard Barrel – Belled End Lugs



COMPRESSION

### Bell Shaped Barrel

Cat. No.	Wire Size*			Class G	Class H	Class I	Class K	Class M	Bolt Size (in.)	Dimensions (in.)					Die Color	Die Code
	Code	Navy	Flex							A	B	C	D	F		
541048BS	8	23	37/24	8	8	—	8	8	#10	1 1/16	1 5/32	1 3/32	5/64	7/32	Red	21
541056BS	6	30	61/24	5	5	5	5	5	1/4	1 3/16	9/16	7/16	7/64	1/4	Blue	24
541065BS	4	40-50	91/24	5	5	5	5	5	1/4	1 9/32	9/16	9/16	7/64	1/4	Grey	29
541394BS	3 & 4	40-50	91/24	4	4	4	4	4	5/16	1 7/16	2 5/32	1 9/32	5/64	1 1/32	Grey	29
541423BS	2	60	125/24	3	3	3	3	3	5/16	1 17/32	2 3/32	2 1/32	5/64	1 1/32	Brown	33
541472BS	1	75	150, 175/24	2	2	2	2	2	5/16	1 21/32	2 3/32	4 9/64	1/8	3/8	Green	37
541531BS	1/0	100	225/24	1	1	1	1	1	5/16	1 5/8	2 3/32	3/4	!	3/8	Pink	42
5411010BS	2/0	125	275/24	1/0	1/0	1/0	1/0	1/0	3/8	1 7/8	1 3/16	1 3/16	!	3/8	Black	45
5416520BS	3/0	150	325/24	2/0	2/0	2/0	2/0	2/0	1/2	2 7/32	1 1/16	1 9/16	!	1/2	Orange	50
5417030BS	4/0	200	450/24	3/0	3/0	3/0	3/0	3/0	1/2	2 5/16	1 1/16	1 1/32	5/32	1/2	Purple	54
5816540BS	250	—	550/24	4/0	4/0	—	—	—	1/2	2 15/32	1 1/8	1 1/4	3/16	1/2	Yellow	62
54114262BS	300	300	650/24	250	250	250	250	—	1/2	2 15/32	1 1/8	1 1/4	3/16	1/2	White	66
5411440BS	300	300	—	250	250	4/0	4/0	4/0	1/2	2 3/8	1 1/8	1 1/4	3/16	1/2	White	66
54115260BS	350	350	650/24	—	—	250	250	250	1/2	2 5/8	1 3/16	1 3/8	\$	9/16	White	66
54185313BS	400	400	775/24	300	300	300	300	300	5/8	3 7/16	1 11/16	1 13/32	7/32	1 3/16	Blue	76
58177350BS	500	—	925/24	400	400	400	350	350	5/8	3	1 5/16	1 5/8	1/4	1 3/16	N/A	80
58180444BS	600	—	1100/24	—	—	450	450	450	5/8	3 3/8	1 11/16	1 25/32	1 7/64	1 3/16	Green	94
54122535BS	700	—	1325/24	500	500	500	500	500	5/8	3 5/8	1 11/16	1 25/32	9/32	1 3/16	Pink	99
54123560BS	750	—	—	600	—	—	—	550	5/8	3 5/8	1 11/16	1 15/16	5/16	1 3/16	Black	106
54124620BS	800	800	—	—	—	—	600	—	3 7/8	1 13/16	1 31/32	5/16	7/8	7/8	Orange	107
54126777BS	900	—	1925/24	—	—	—	—	—	5/8	4 1/8	1 13/16	2 3/16	1 1/32	7/8	Yellow	115

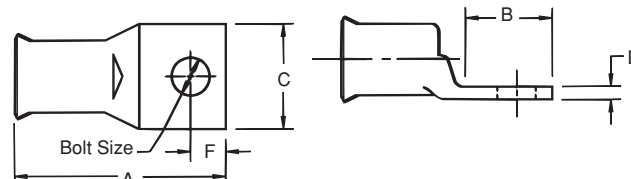
Existing Cat. Nos.	Existing Connectors Are UL486A Listed For:			New Series** (Same Tubing As Existing Cat. Nos.)	Class G	Class H	Class I	Class K	Class M	Code
	Code	Navy	Flex							
54104	8	23	37/24	541048BS	8	8	—	8	8	—
54105	6	30	61/24	541056BS	5	5	5	5	5	—
54106	4	40-50	91/24	541065BS	5	5	5	5	5	—
54139	4	40-50	91/24	541394BS	4	4	4	4	4	3
54142	2	60	125/24	541423BS	3	3	3	3	3	—
54147	1	75	150, 175/24	541472BS	2	2	2	2	2	—
54153	1/0	100	225/24	541531BS	1	1	1	1	1	—
54110	2/0	125	275/24	5411010BS	1/0	1/0	1/0	1/0	1/0	—
54165	3/0	150	325/24	5416520BS	2/0	2/0	2/0	2/0	2/0	—
54170	4/0	200	450/24	5417030BS	3/0	3/0	3/0	3/0	3/0	—
58165	—	—	550/24	5816540BS	4/0	4/0	—	—	—	250
54114	300	300	—	5411440BS	250	250	4/0	4/0	4/0	—
54115	350	350	650/24	54115260BS	—	—	250	250	250	—
54185	400	400	775/24	54185313BS	300	300	300	300	300	—
58177	—	—	925/24	58177350BS	400	400	400	350	350	500
58180*	—	—	1100/24	58180444BS	—	—	450	450	450	600
54122	700	—	1325/24	54122535BS	500	500	500	500	500	—
54123	750	—	—	54123560BS	600	—	—	—	550	—
54124	800	800	—	54124620BS	—	—	—	—	600	—
54126	900	—	1925/24	54126777BS	—	—	—	—	—	—

\* = Cat 58180 is made of the same tubing as cat. 54120. Cat. 54120 is listed for 600 mcm.

\*\* = To be installed with the same installing tools as the existing line of connectors.

Tooling: Pg. 79-100

Die Selector Chart: Pg. 105-109



**Thomas & Betts**