

For terminating or connecting continuous runs of copper cable to flat surfaces, i.e., cable trays, structures, and bus bar.

The captive "Keeper Bar" design extends the cable range, and helps hold cable prior to crimping, thereby facilitating installation. Saddles are marked with conductor size and die code. Conductor can be assembled to saddle with standard dies and hydraulic tools.

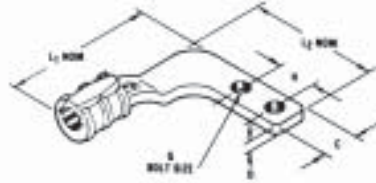
Material: High conductivity cast copper

Grid Grounding Lug—2 Bolt Hole—Flag Type

Cat. No.	Wire Range	Bolt Hole	Hex Die		Dimensions (in.)				
			Cat. No.	Code No.	L1	L2	D	C	H
53055FL	1/0-2/0 AWG	3/8"	*15534	66	4-3/32	3-21/32	9/32	1-3/8	1
53065FL	4/0-250 kcmil	3/8"	**15506	87H	4-1/2	4-3/32	5/16	1-3/8	1

* TBM14M, 13100A, TBM15i with hex crimp dies.

**TBM15i with hex crimp dies only.



Riser cable flag connectors provides a low cost method of connecting directly to bus bar, eliminating an interface connection. All bolt holes are 3/8" on 1" centers.

Material: High conductivity wrought copper

Flag Connector for Riser Cable



Cat. No.	Figure No.		Cable Size	Colour Code	Die Code
GFL2-1	1	Single U Barrel	#2-#1	Pink	42
			150/24		
GFL10-20	1	Single U Barrel	1/0 AWG	Gold	45
			2/0 AWG		
			225/24		
GFL40-250	1	Single U Barrel	275/24	Gold	45
			4/0 AWG		
			250 kcmil		
			325/24		
GFL350	1	Single U Barrel	450/24	Red	71H
			550/24		
			350 kcmil		
GFL500*	1	Single U Barrel	650/24	Brown	87H
			774/24		
GFL750**	2	Double U Barrel	500 kcmil	Black	106H
			925/24		
			750 kcmil		
			1100/24		
			1325/24		
			1600/24		

¹ Both "U" barrels must be crimped to a single, continuous length of conductor.

Installing tools: TBM14M, 13100A, TBM15i

* TBM15i Installing tool only.

See page 59 for dimensional information.



Fig. 1

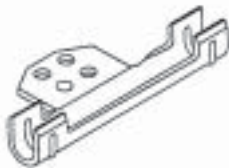


Fig. 2



FG2040R2 Series Connectors (for round posts)

These connectors bond copper conductors to steel or aluminum fence posts or top rail of round fence posts. They provide a quick, dependable installation at low installed cost, and use no incendiary materials.

Grid to Fence Grounding Clamps

Cat. No.	Ground Cable Range	Die Code No.	Steel & Alum. Line Post Range
FG2040R2	2/0-3/0-4/0	#76	2"
FG2040R25	2/0-3/0-4/0	#76	2-1/2"
FG2040R3	2/0-3/0-4/0	#76	3"
FG210R2	2-1-1/0	#66	2"
FG210R25	2-1-1/0	#66	2-1/2"
FG210F3	2-1-1/0	#66	3"

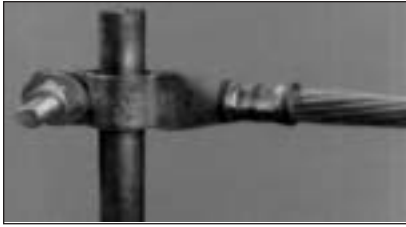
Install with hydraulic tooling with hex crimp dies.

Material: U bolt—steel

Body—Cast copper alloy



Ground Clamp



Cat. No.	Wire Size	Ground Rod Diameter (in.)	Rebar No.	Bolt Size (in.)	Die Code
CC2C-45R	#2-#3 AWG	1/2 or 5/8	4-5	1/4	33-Brown
CC1C-45R	#1 AWG	1/2 or 5/8	4-5	1/4	37-Green
CC10C-56R	1/0 AWG	5/8 or 3/4	5-6	3/8	42-Pink
CC20C-56R	2/0 AWG	5/8 or 3/4	5-6	3/8	45-Black
CC40C-56R	4/0 AWG	5/8 or 3/4	5-6	3/8	54-Purple

Approved for direct burial.

Crimps to cable, clamps to ground rod and rebar. Provides a permanent, reliable connection. Uses standard Color-Keyed® hand and hydraulic tools. Colour-coded for easy selection of die.

Material: High conductivity wrought copper. Furnished with stainless steel hardware: 1/4" washers, bolts and nuts.

Quick Connector to Bus Bar—600V Applications



**Material: High Conductivity Copper
Finish: Electro Tin Plate**

Wire Size		Cat. No.	Bolt Size	Dimensions (in.)			Die Code	Colour Key
Code	Flex			W	L1	L2		
4/0	450/24	BD40-25	1/4	1-3/8	3-13/16		54	Purple
4/0	450/24	BD40-2590	1/4	1-3/8		2-5/32	54	Purple
250 kcmil	4/0 (550/24)	BD250-25	1/4	1-3/8	4-1/8		62	Yellow
250 kcmil	4/0 (550/24)	BD250-2590	1/4	1-3/8		2-5/32	62	Yellow
300 kcmil		BD300-25	1/4	1-3/8	4-3/16		66	White
300 kcmil	—	BD300-2590	1/4	1-3/8		2-5/32	66	White
350 kcmil	650/24	BD350-25	1/4	1-3/8	4-7/16		71	Red
350 kcmil	650/24	BD350-2590	1/4	1-3/8		2-5/32	71	Red
400 kcmil	775/24	BD400-25	5/16	2	4-21/32		76	Blue
400 kcmil	775/24	BD400-2590	5/16	2		2-5/32	76	Blue
500 kcmil	350 (925/24)	BD500-25	5/16	2	4-13/16		87	Brown
500 kcmil	350 (925/24)	BD500-2590	5/16	2		2-1/4	87	Brown
600 kcmil		BD600-25	5/16	2	5-3/16		94	Green
600 kcmil	—	BD600-2590	5/16	2		2-1/4	94	Green
700 kcmil		BD700-25	5/16	2	5-3/16		99	Pink
700 kcmil	—	BD700-2590	5/16	2		2-1/4	99	Pink
750 kcmil	500 (1325/24)	BD750-25	5/16	2	5-3/16		106	Black
750 kcmil	500 (1325/24)	BD750-2590	5/16	2		2-1/4	106	Black

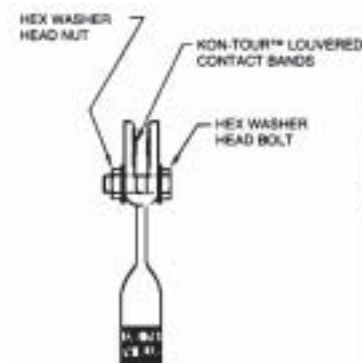


Fig. 1

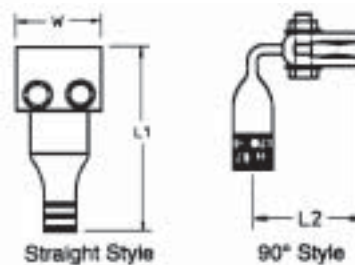


Fig. 2

GROUNDING CONNECTORS



Compresses #8 AWG through 4/0 AWG cable and clamps onto pedestal posts up to 1" diameter square and 1-1/4" round. Can be used as an "X" or "T" configuration cable to post.

Signal Reference Grid Connector

Cat. No.	Conductor Range	Installing Tools and Die Codes TBM14M and TBM15I		
		Die Cat. No.	Die Code No.	Colour Code
SRG8-4	#8	15527	29	Grey
	#6 to #4	15528	33	Brown
SRG2-1	#2 & #1	15508	42	Pink
SRG10-20	1/0 & 2/0	15530	50	Orange
SRG30-40	3/0 & 4/0	15511	54	Purple

Material: High conductivity copper



Secures signal reference grid wire to raised-floor support posts

- Range-taking design: accepts #8 to #4 AWG grid wire; fits 1" round and 3/4" square trade size support posts
- Lay-in feature means no kinks or bends
- Quick, easy installation
- Only one screw to tighten
- Allows grid wire to make direct, low resistance contact with support posts

Signal Reference Grid Clamps



Cat. No.	Description	Wire Range
3900	3/4" Square to 1" Round	#8 - #4
900BP (Bulk Pack)	3/4" Square to 1" Round	#8 - #4

Material: Stamped steel, zinc plating

Approved for grounding and bonding per U.L. 467.



Floor support post 3/4 in. square or 1 in. round

Signal reference grid wire #4 AWG to #8 AWG

Slotted hex, washer head installing screw



Ground Fittings

Cat. No.	Description	For Use With
10102-TB	1-1/4 to 1-1/2 in. cables	#8 - #2 Ground Wire
10103-TB	2 to 4 in. cables	#4 - 4/0 Ground Wire

Material: Malleable iron, zinc plating



Waterpipe Ground Clamps



Cat. No.	Ground Wire Size	Water Pipe Size
2-TB	#6, #4, #2	1/2", 3/4", 1" or rebar 4-10
3-TB	#6, #4, #2	1-1/4", 1-1/2" or 2"
4	#6, #4, #2	2-1/2", 3" or 3-1/2"
5-TB	#6, #4, #2	4", 4-1/2" or 5"
6	#6, #4, #2	6"

Material: Malleable iron

Waterpipe Ground Clamps



Cat. No.	Ground Wire Size	Water Pipe Size
Bronze		
3902BU*	#4-4/0 AWG	1/2" to 1"
3903BU*	#4-4/0 AWG	1-1/4" to 2"
3904BU*	#4-4/0 AWG	2-1/2" to 3-1/2"
3905BU*	#4-4/0 AWG	4" to 5"
3906BU*	#4-4/0 AWG	6"
3907BU*	#4-4/0 AWG	8"
3908BU*	#4-4/0 AWG	10"
3909BU*	#4-4/0 AWG	12"
Malleable iron		
3902	#4-4/0 AWG	1/2" to 1"
3903	#4-4/0 AWG	1-1/4" to 2"
3904	#4-4/0 AWG	2-1/2" to 3-1/2"
3905-TB	#4-4/0 AWG	4" to 5"
3906-TB	#4-4/0 AWG	6"
3907	#4-4/0 AWG	8"
3908	#4-4/0 AWG	10"
3909-TB	#4-4/0 AWG	12"

*U.L. Listed for Direct Burial

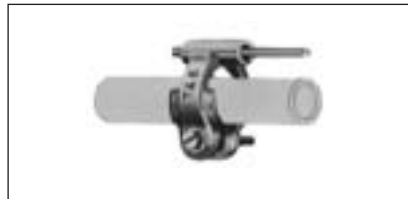
Standard series furnished with bronze saddle and steel U-bolt.



3826



3849



3840-TB



3844
For armored and unarmored wire



961
For radio, motor frame and equipment grounding

Ground Clamps

Cat. No.	Material	Water Pipe, Copper Tubing Size	Ground Rod Size
3826 [†]	M.I.	1/2", 3/4"	1/2"-1"
3846 [†]	Bronze	1/2", 3/4"	1/2"-1"
3849 [‡]	Brass	1/2"-1" O.D.	
3840-TB*	M.I.	1/2", 3/4" or 1"	

[†] For unarmored copper wire #6, #4.

[‡] For copper and aluminum conductors; for 14 thru 2 unarmored copper wire—corrosive and outdoor use. U.L. approved for direct burial.

* #8 thru #4 AWG. Not CSA Certified.



Ground Clamps for Copper Tubing Only

Cat. No.	Ground Wire Range	Water Pipe & Ground Rod Size/Desc.
3844 [†]	#8-#4 AWG	1/2"-1"
3888 [‡]	#8-#4 AWG	1/2"-1"
961	#8 AWG	also rebar 4-10 3/8" to 1"
962*	#8 AWG	3/8" to 1"
963*	#8 AWG	3/8" to 3"

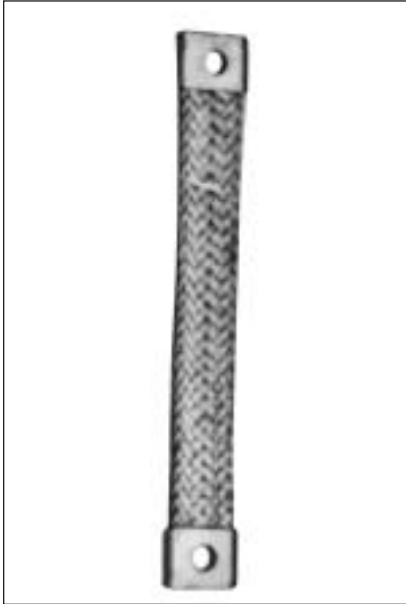
[†] With Steel Screws

* With Bronze Screws. Not CSA or U.L. Certified

[‡]U.L. approved for direct burial. Silicon Bronze Screws.



Flexible Braids for Grounding and Bonding Applications



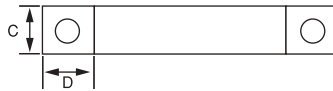
Cat. No.	Circular Mils	No. of Bolt Hole	Braids in Ferrule	Dimensions (in.)		
				Thickness	C Width	D Ferrule Length
FBB12-1*	24000	1/4	1	0.140	0.625	0.750
FBC12-1*	48000	7/16	1	0.148	1.000	1.300
FBD12-1*	76800	7/16	1	0.200	1.000	1.300
FB2D12-1*	153600	7/16	2	0.250	1.250	1.500
FB3D12-1*	230400	7/16	3	0.350	1.250	1.500
FBXD12-1*	105600	9/16	1	0.250	1.250	1.500
FB2XD12-1*	211200	9/16	2	0.350	1.250	1.500
FB3XD12-1*	316800	9/16	3	0.400	1.250	1.500
FBE12-1*	168000	9/16	1	0.500	1.250	2.500
FB2E12-1*	336000	9/16	1	0.500	1.250	2.500

*Listed UL 467 and 486A, certified CSA C22.2 No. 41 as grounding and Bonding Equipment. CSA/UL approved lengths are 6, 12, 18, 24, 30 and 36 inches (end to end).

For custom flexible braids, contact your Regional Sales Office.

Change the 12 in the above catalogue numbers to the desired length.

For continuous current applications, see page 79.



- Tin-plated copper braids and ferrules for high conductivity and corrosion resistance.
- Flexible copper braids for use in substation and grounding applications.
- Flexible braids allow for linear expansion, equipment vibration, and offset connections.

Flexible Braid in a roll (10 foot minimum)=

Cat. No.	Circular Mils	Thickness (in.)	Width (in.)
FBRL	24 000	0.140	0.625
FBCRL	48 000	0.148	1.000
FBDRL	76 800	0.200	1.000
FBXDRL	105 600	0.250	1.250

*Ferrules or lugs not included.

Minimum Size Conductors for Bonding Raceways and Equipment

Rating or Setting of Overcurrent Device in Circuit Ahead of Equipment, Conduit, Etc. Not Exceeding — Amperes	Copper Wire Circular Mils
200	26 240
300	41 740
400	52 620
500	66 360
600	83 690
800	105 600
1 000	133 100
1 200	167 800
1 600	211 600
2 000	250 000
2 500	350 000
3 000	400 000
4 000	500 000
5 000	700 000
6 000	800 000

Based on table 16 C.E.C.

Minimum Size of Bare Copper Grounding Conductor

Maximum Available Short Circuit Current Amperes	Maximum Fault Duration with Exothermic Weld, Compression or Bolted Joint	
	0.5 Seconds Circular Mils	1.0 Second Circular Mils
5 000	26 240	41 740
10 000	52 620	83 690
15 000	83 690	105 600
20 000	105 600	167 800
25 000	133 100	211 600
30 000	167 800	211 600
35 000	211 600	250 000
40 000	211 600	300 000
50 000	250 000	350 000
60 000	300 000	500 000
70 000	350 000	600 000
80 000	400 000	600 000
90 000	500 000	700 000
100 000	500 000	700 000

Based on table 51 C.E.C.

Size calculated in accordance with IEEE No. 80.

GROUNDING CONNECTORS