

# Grounding and Bonding Cable Tray

# Grounding and Bonding Products

## Economical Cable Tray Ground Clamp



Material:  
malleable iron

Standard finish:  
zinc plated

Catalogue Number	Description
10103TB	For single conductor #4 solid to 4/0 str.
MA2GC	For single conductors #4 solid to 4/0 str. Includes Superstrut springless channel nut for easy installation in cable tray rungs.

## Cable Tray Ground Clamp

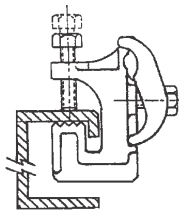


Material:  
malleable iron

Standard finish:  
zinc plated

Showing Cat. No. 10109

Catalogue Number	Description
10105	For single conductors #4 solid to 2/0 str.
10109	For single conductors 2/0 solid to 4/0 str.



## Blackburn® Ground Clamp



Material:  
copper alloy

Standard finish:  
tin plated for  
aluminum cable tray

Catalogue Number	Conductor Range		Figure
	Min.	Max.	
GTC13P	#4 sol.	2/0 str.	1
GTC14P	2/0 str.	250 Kcmil	1
GTC23P	#4 sol.	2/0 str.	2
GTC24P	2/0 str.	250 Kcmil	2

Bolt has square shank to prevent turning and allow clamp to be tightened with one wrench.



Figure 1



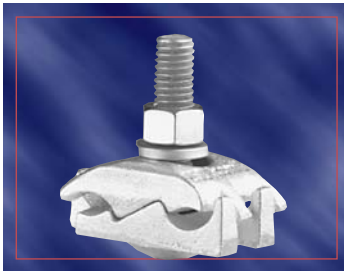
Figure 2



Castings are of high strength, corrosion-resistant copper alloy.

For our complete offering of Grounding & Bonding products, consult our Blackburn® and Color-Keyed® catalogues.

## Blackburn® Cable Tray Ground Clamp



Material: copper alloy  
Standard finish: tin plated

Catalogue Number	Description
CTG250	For parallel or tapping applications #2 solid to 250 Kcmil.



## Blackburn® Lay-in Lug



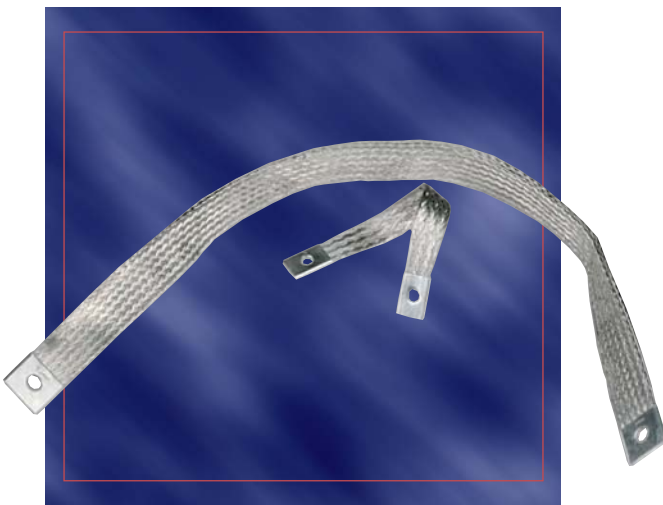
Material: Tin Plated high strength 6061-T6 aluminum alloy

Catalogue Number	Conductor Range		Stud Size	
	Min.	Max.	(in.)	(mm <sup>2</sup> )
LL306	#6 solid	3/0 str.	.33	8.38
LL2506	#6 str.	250 Kcmil	.33	8.38

These grounding connectors are dual rated for aluminum and copper conductors. The opened face design allows the installer to quickly lay-in the grounding conductor as a jumper.



## Bonding Jumpers



Material: copper  
Standard finish: tin plated

Catalogue Number	Bonding Amp. Capacity	Single Bolt Hole	Description
FBD12-1 *	600 Amps.	7/16	12" flat flexible braid
FBD16-1 *	600 Amps.	7/16	16" flat flexible braid
FBE12-1 *	1200 Amps.	9/16	12" flat flexible braid
FBE16-1 *	1200 Amps.	9/16	16" flat flexible braid
FB3H12-1 *	2000 Amps.	9/16	12" flat flexible braid
FB3H16-1 *	2000 Amps.	9/16	16" flat flexible braid

\*Listed UL 467 & 486A, certified CSA C22.2 No. 41 for grounding & bonding equipment. Standard lengths offered in 12, 18, 24, 30 and 36 inches end to end.

Example : FBD24-1 for a 24" long bonding jumpers  
Custom braids are available

**IMPORTANT:** Bonding Jumpers are required for expansion joints as well as adjustable joints. Please note due to the overall length of the expansion plate a 12" long bonding jumper is no longer sufficient to span the joint properly.



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## Grounding & Bonding

**Table 1  
(NEC TABLE 392.7 (B))  
Metal Area Requirements for Cable Trays  
Used as Equipment Grounding Conductors**

Maximum Fuse Ampere Rating, Circuit Breaker Ampere Trip Setting, or Circuit Breaker Protective Relay Ampere Trip Setting for Ground Fault Protection of any Cable Circuit in the Cable Tray System	Minimum Cross-Sectional Area of Metal* In Square Inches	
	Steel Cable Trays	Aluminum Cable Trays
60	0.20	0.20
100	0.40	0.20
200	0.70	0.20
400	1.00	0.40
600	1.50 **	0.40
1000	-	0.60
1200	-	1.00
1600	-	1.50
2000	-	2.00 **

**For SI units:** one square inch = 645 square millimeters.

\* Total cross-sectional area of both side rails for ladder or trough-type cable trays: or the minimum cross-sectional area of metal in channel-type cable trays or cable trays of one-piece construction.

\*\* Steel cable trays shall not be used as equipment grounding conductors for circuits with ground-fault protection above 600 amperes. Aluminum cable trays shall not be used as equipment grounding conductors for circuits with ground-fault protection above 2000 amperes.

For larger ampere ratings an additional grounding conductor must be used.

**Table 2  
Minimum Size Equipment Grounding  
Conductors for Grounding &  
Bonding Raceway and Equipment  
(Based on NEC Table 250-95 and CEC Table 16)**

Rating or Setting of Automatic Overcurrent Device in Circuit Ahead of Equipment, Conduit, etc. Not exceeding (Amperes)	Size	
	Copper Wire No.	Aluminum or Copper-Clad Aluminum Wire No.*
15	14	12
20	12	10
30	10	8
40	10	8
60	10	8
100	8	6
200	6	4
300	4	2
400	3	1
500	2	1/0
600	1	2/0
800	1/0	3/0
1000	2/0	4/0
1200	3/0	250 kcmil
1600	4/0	350 kcmil
2000	250 kcmil	400 kcmil
2500	350 kcmil	600 kcmil
3000	400 kcmil	600 kcmil
4000	500 kcmil	800 kcmil
5000	700 kcmil	1200 kcmil
6000	800 kcmil	1200 kcmil

\* See installation restrictions in NEC Section 250-92(a).

For more information on grounding and bonding cable tray, refer to Section 4.7 of the new NEMA VE 2-2006 Cable Tray Installation Guidelines.

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