

## PART 1 - GENERAL

<u>1.1 RELATED REQUIREMENTS</u>	.1	Section 27 11 19 - Structured Cabling for Communication Systems.
<u>1.2 REFERENCES</u>	.1	American National Standards Institute .1 ANSI J-STD-607-A-2002, Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications.
	.2	Telecommunications Industry Association (TIA)/Electronic Industries Alliance (EIA) .1 TIA/-606-A-1(January 2009), Administration Standard for the Commercial Telecommunications Infrastructure.
	.3	U.S. Department of Labor/Occupational Safety and Health Administration (OSHA) .1 Nationally Recognized Testing Laboratory (NRTL).
<u>1.3 SYSTEM DESCRIPTION</u>	.1	Telecommunications grounding and bonding system consist of grounding busbars, bonding backbones, and other bonding conductors.
	.2	Provides ground reference for telecommunications systems within building and bonding to it equipment of telecommunications rooms.
	.3	Metallic pathways, cable shields, conductors, and hardware within telecommunications spaces are bonded to telecommunications grounding and bonding system.
<u>1.4 QUALITY ASSURANCE</u>	.1	Health and Safety Requirements: do construction occupational health and safety in accordance with Section 01 35 29.06.

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1.5 DELIVERY, STORAGE AND HANDLING	.1	Separate waste materials for reuse and recycling in accordance with Section 01 74 20.
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## PART 2 - PRODUCTS

2.1 TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB)	.1	Predrilled copper busbar, approved by NRTL, electrotin plated with holes 8 mm diameter for use with standard-sized lugs to: ANSI J-STD-607-A.
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	.2	Dimensions 6 mm thick, 154 mm wide, 610 mm long to: ANSI J-STD-607-A.
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2.2 TELECOMMUNICATIONS GROUNDING BUSBAR (TGB)	.1	Predrilled copper busbar, approved by NRTL, electrotin plated with holes 8 mm diameter for use with standard-sized lugs to: ANSI J-STD-607-A.
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	.2	Dimensions 6 mm thick, 154 mm wide, 610 mm long to: ANSI J-STD-607-A.
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2.3 BONDING CONDUCTOR FOR TELECOMMUNICATIONS	.1	2/0 AWG copper conductor, green insulated marked to: ANSI J-STD-607-A.
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2.4 TELECOMMUNICATIONS BONDING BACKBONE (TBB)	.1	2/0 AWG copper conductor, green insulated marked to: ANSI J-STD-607-A.
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2.5 GROUNDING EQUALIZER (GE)	.1	2/0 AWG copper conductor, green insulated marked to: ANSI J-STD-607-A.
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2.6 WARNING LABELS	.1	Non-metallic warning labels in English and French to: ANSI J-STD-607-A.
	.2	Identify labels with wording "If this connector is loose or must be removed, please call the building telecommunications manager".

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### PART 3 - EXECUTION

<u>3.1 TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB)</u>	.1	Install TMGB in entrance room on insulated supports 50 mm high at location close to electrical power panel if one is installed in same room as indicated.
	.2	Install 2/0 AWG copper bonding conductor from TMGB to alternating current equipment ground (ACEG) of serving electrical power panel (panelboard).
<u>3.2 TELECOMMUNICATIONS GROUNDING BUSBAR (TGB)</u>	.1	Install TGB in main terminal/equipment room and each telecommunications room.
	.2	Install 6 AWG copper bonding conductor from TGB to alternating current equipment ground (ACEG) of serving electrical power panel (panelboard).
<u>3.3 BONDING CONDUCTORS GENERAL</u>	.1	When placed in ferrous metallic conduit or EMT longer than 1 m, bond to each end of conduit or EMT using 6 AWG copper conductor.
<u>3.4 BONDING CONDUCTOR FOR TELECOMMUNICATIONS</u>	.1	Install bonding conductor for telecommunications from TMGB to service equipment (power) ground.
	.2	Use exothermic welding, approved 2 hole compression lugs for connection to TMGB.
<u>3.5 TELECOMMUNICATIONS BONDING BACKBONE (TBB)</u>	.1	Install TBBs from TMGB to each TGB.
	.2	Use exothermic welding, approved 2 hole compression lugs for connection to TMGB and TGBs.
<u>3.6 BONDING TO TMGB</u>	.1	Bond metallic raceways in telecommunications entrance room to TMGB using 2/0 AWG green insulated copper conductor.
	.2	For cables within telecommunications entrance room having shield or metallic member, bond

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| 3.6 BONDING TO<br>TMGB<br>(Cont'd) | .2 | (Cont'd)<br>shield or metallic member to TMGB using 6 AWG<br>green insulated copper conductor.   |
|                                    | .3 | Bond equipment rack located in<br>telecommunications room to TMGB using 6 AWG<br>green insulated copper conductor.   |
| 3.7 BONDING TO TGB                 | .1 | Bond metallic raceways in telecommunications<br>room to TGB using 6 AWG green insulated copper<br>conductor.   |
|                                    | .2 | For cables within telecommunications room<br>having shield or metallic member, bond shield or<br>metallic member to TGB using 6 AWG green<br>insulated copper conductor. |
|                                    | .3 | Bond equipment rack located in<br>telecommunications room to TGB using 6 AWG green<br>insulated copper conductor.  |
| 3.8 LABELLING                      | .1 | Apply warning labels to telecommunications<br>bonding and grounding conductors.  |
|                                    | .2 | Apply additional administrative labels to:<br>TIA/EIA-606.   |