

IUEC SAFETY ALERT

ELECTRICAL SAFE PRACTICES
BONDING & GROUNDING



Electrical Safe Practices – Bonding & Grounding

NFPA 70 National Electric Code 2017 Edition

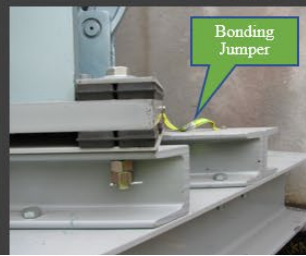
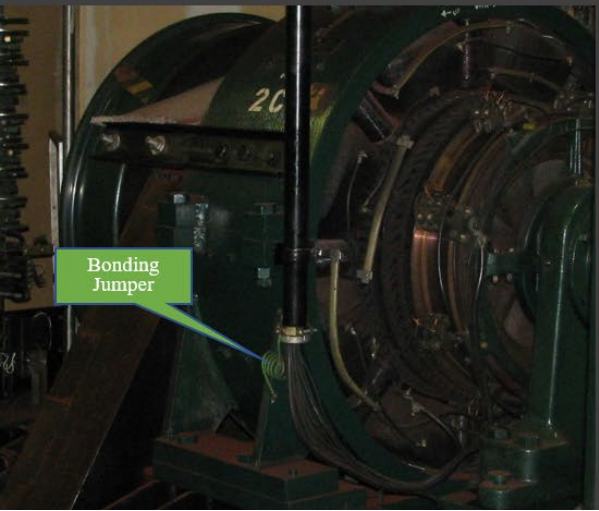
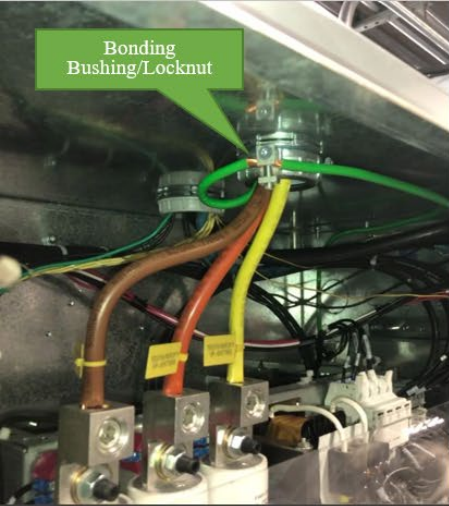
Definitions:

Bonded (Bonding). *Connected to establish electrical continuity and conductivity*

Grounded (Grounding). *Connected (connecting) to ground or to a conductive body that extends the ground connection*

Electrical Bonding

- Bonding is the process of joining all metal enclosures, equipment, raceways and metal parts of a system together to assure electrical continuity
- Bonding items together places all parts of the system at the same potential
- Traveling cables must be securely bonded to the car sling
- Bonding jumpers should always be connected between:
 - Controller and electricians' conduit
 - Controller and the raceway system
 - Motor-generator set and the raceway system
 - The main driving machine and the raceway
 - Machines and controllers isolated from ground
 - Flexible metal conduit under certain conditions
 - Controller door and controller
 - The hinge does not provide a bond



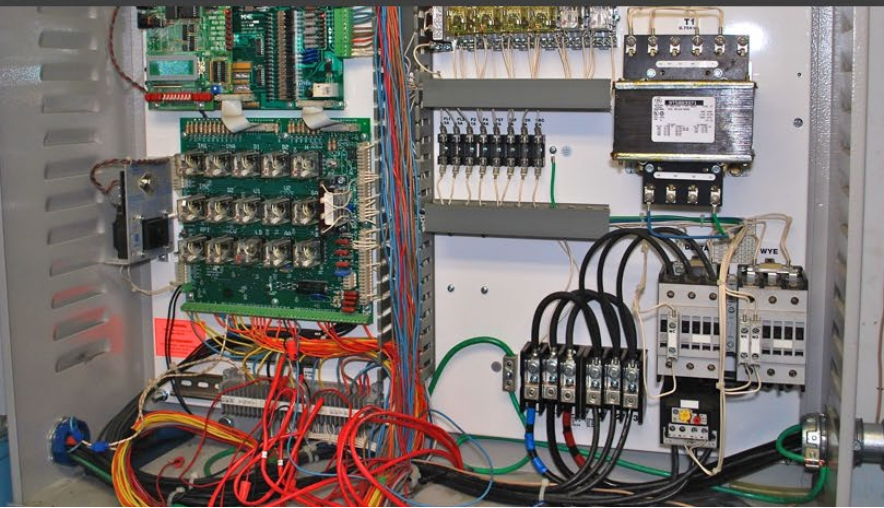


Grounding

Article 250 of the National Electrical Code devotes nearly 35 pages to the subject of Grounding and the primary focus is safety. The National Elevator Industry Educational Program's Semester 500, Training Module 510 also spends considerable time addressing this important electrical safety issue in the conveyance industry. Be sure to adhere to all applicable standards when piping and wiring machine rooms and hoistways.

Grounding all parts of the electrical system provides for the safety of:

- Elevator passengers who come in contact with faceplates of fixtures and devices, the elevator cab, platform, doors, etc.
- Elevator Constructors who service and maintain the equipment from contacting an ungrounded system that has become "hot" forming an immediate path to ground
- Persons using power tools or appliances
- The electrical system itself by conducting accidental voltages and static discharges away from the equipment to ground
 - To ensure a consistent and dependable ground, the car sling must be grounded through the traveling cable



PHOTOS APPROVED BY IUEC SAFETY