

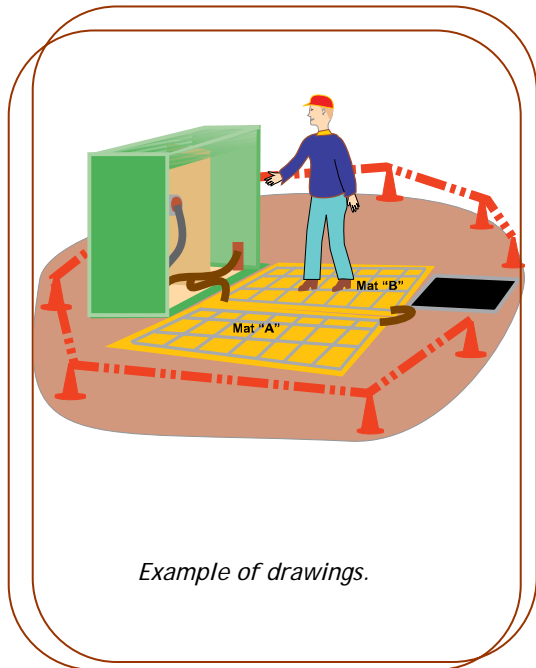
Practical Grounding Procedures

Seventeen drawings and pictures describe specific examples for achieving Equal Potential Zone Grounding enhancing worker safety.

Instructions on the proper use and application of portable grounding mats are explained with detailed drawings providing clarity.

Isolation techniques are also used to increase worker protection.

Priced at \$29.95 US per copy with discounts available for quantities of 25 or more.

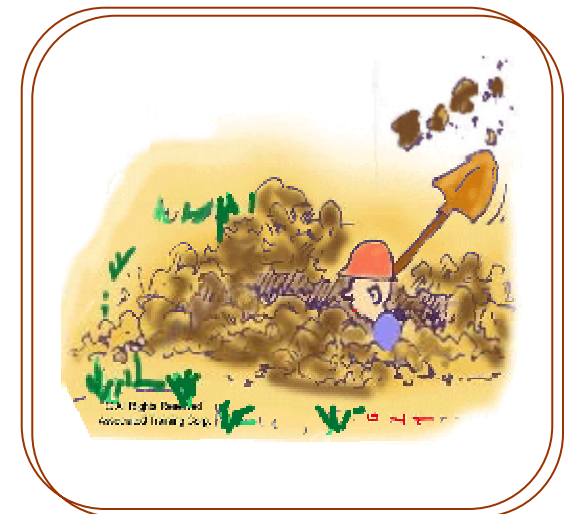


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Protective Grounding Procedures and Manuals for Underground Installations

ATC Consulting Services



Your Source for Grounding Information

Phone: 972-889-9075
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New 68 pg. Booklet

Finally a complete underground grounding procedure for protecting workers while working on pad mounted equipment. Underground circuits; including both duct bank and direct buried circuits are addressed.

Grounding Principles and Procedures are detailed and reference to generally accepted grounding standards is provided. Grounding of 200 and 600 ampere separable equipment is addressed.

This 68 page booklet contains drawings, pictures, and grounding examples explaining how to mitigate the hazards associated with de-energized underground equipment and circuits.

The proper use and limitations of Portable Grounding Mats for mitigating Step & Touch Potential Hazards is explained.

A section is devoted to purpose and methods of using cable isolation techniques and protective grounding in combination to mitigate hazards and protect workers.

The purpose of this pamphlet is to increase worker awareness of the hazards associated with de-energized work and assist in making their work safer.

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Drawings increase worker understanding.

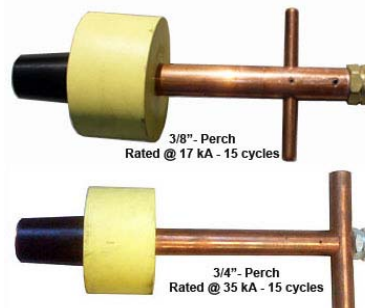
6.0 Fundamental Selection of Grounding Equipment

- 6.1 All protective grounding clamps and cables shall meet the requirements established in the current version of *ASTM Standard 855 "Specifications for Temporary Protective Grounds to be Used on De-energized Electric Power Lines and Equipment."*
- 6.2 Elbows and feed through devices used for protective grounding shall be load break rated or compatible with load break elbows and meet *IEEE 386 "Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600 V."*
- 6.3 Non load break 200 ampere elbows not specifically designed for protective grounding shall not be used for personal protection.
- 6.4 Load break elbows, used for protective grounding, should be held in place with bails. Plastic tie wraps may also be used to assure bails and/or elbows remain in position.
- 6.5 Grounding on 600 ampere molded separable "T" bodies and elbows, a Grounding Adapter Device rated for the available fault current shall be used for protective grounding.

Note: At least five (5) variations of a GAD (Grounding Adapter Device) currently exist. As per manufacturer's literature, they are rated for 15 cycles with current ratings as follows: 17 kA minimum, three are rated 27 kA and one is rated at 35 kA.

Two more commonly used "GAD's" are shown below. The most obvious and significant difference is the size of the "Perch" or "T". The smaller Perch's diameter measures 3/8" and is rated for a maximum fault current of 17 kA for 15 cycles. The larger "T" has 3/4" diameter and is rated for a 35 kA for 15 cycles.

Example



About the Author

Wayne Blackley, a Registered Professional Engineer and graduate of Texas A&M University, began his electrical career as a lineman. He is a member of the Texas Society of Professional Engineers, a Senior Life Member of the Institute of Electrical and Electronic Engineers, and the American Society for Testing & Materials. He currently serves on ASTM committees F18 Electrical Protective Equipment for Workers, D09 Electrical & Electronic Insulating Materials and is a Principle Member of Sub-Committee 8 (Work Practices) on the National Electrical Safety Code®.

He has held the position as Director of the Multi-Amp Institute Training Facility. He served as Vice-President and General Manager of Teague Industries, a construction company that installed overhead and underground electrical and fiber optic systems. Prior to this, he served as Senior Engineer of the Quality Assurance Division for the Comanche Peak Nuclear Project and as Division Supervisor of Distribution for a major utility. He also worked as a System Planning Engineer, System Operating Engineer and T&D Engineer.

Mr. Blackley is an approved instructor in the states of Idaho, Washington and Wyoming for seminars on the National Electrical Safety Code® and code changes on the current document. Mr. Blackley has served as President and Senior Consultant for Associated Training Corporation since 1990. As a consultant he has established his position as an authority on Protective Grounding, use of protective equipment and fault/arc flash calculations.

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