



ESA

**Electrical Safety
Mining Services Group**

Mining Services - Training Module

Grounding and Bonding in Mines and Mining Plants

Course Overview:

An Electrical Safety Code Workshop on Grounding and Bonding in Mines and Mining Plants with specific references to the Provincial Mining Regulations, M421-93-00 “Use of Electricity in Mines” and the Canadian Electrical Code.

Course Topics:

- Introduction to Grounding and Bonding
- System and Circuit Grounding
- Ground Electrodes
- Ground Conductor Installation
- Bonding & Bond Conductor Sizing and Installations
- Ground Fault Protection (Neutral Grounding Systems)
- Moveable & Mobile Equipment (Protective Relay Settings)
- Lightning Protection
- Grounding of Temporary Systems
- Grounding of Industrial Control Equipment

Course Purpose:

- Learn using all of the applicable regulation, standards and codes for reference;
- Learn the difference between grounding and bonding and when each is required to ensure electrical safety.
- Recognize potential hazards in existing installations that may have been previously overlooked.
- Providing detailed information to ensure new installations meet all of the applicable regulations, standards and codes.
- Increase the knowledge and awareness of transformers for all electrical personnel on the requirements of the various codes and standards that must be met.