



MSHA's Accident Prevention Program Safety Idea

Safety and
Health are
Values!

Electrically Insulated Matting

Mine Type: **All Mines**

Category(s): **Electrical and Maintenance**

An experienced maintenance supervisor wants to alert all miners about the importance of using non-conductive matting. He was trained by an "old" mine electrician who had been seriously injured when "he was grounded-out with wet feet". The "old" electrician taught him "to make sure a piece of rubber was in place before working on any electrical devices". It worked for him. In 1996, an electrical buss bar panel "arc flashed and blew-up" on him. He credits the "piece of rubber" for saving his life.



Primary protection against electrocution includes proper lock-out/tag-out procedures plus good Personal Protective Equipment including gloves, safety glasses, suitable hard hat and electrically rated foot wear. Non-conductive "switchboard" matting provides secondary protection for miners from harmful or deadly electrical shock by eliminating them as a path to ground. The dry matting should be placed in front of switchboards, power-control centers, motor control centers, buss bar panels, and other electrical apparatus.

Conveyor belt manufacturers use semi-conductive compounds to eliminate the build-up of electrostatic charges which eliminate ignition hazards and prevent material carry over. Steel cord may also be used to increase the belt strength. These materials reduce the electrical insulating properties of conveyor belting. **Remember:** Just because it is conveyor belting, doesn't mean it is a safe alternative for electrical insulation. Belting must have suitable insulating properties if it is to be used as switchboard matting.

Important points to consider when selecting matting:

- MSHA experience suggests, if there is any doubt about the insulating properties of belt matting, commercial electrically rated insulated mats should be purchased and used for miners' personal protection.
- Never use matting that is embedded with metallic material, cracked, torn, punctured, cut, or badly worn.
- Matting is available with a corrugated/ribbed/diamond pattern surface which acts as a safety tread to prevent slips/falls.

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