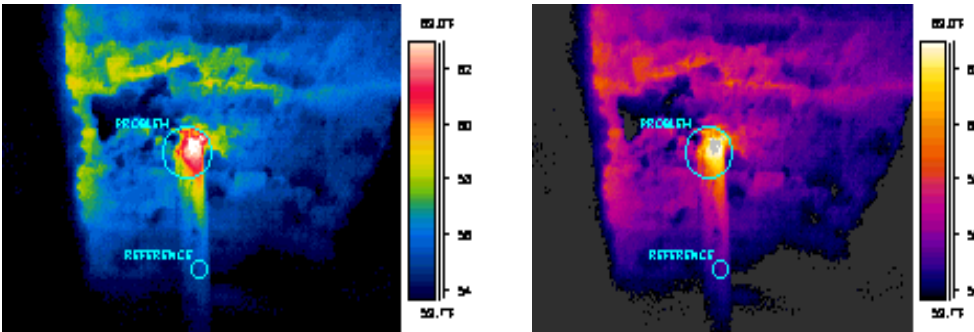


Trolley Wire Insulator



Why inspect mines with Infrared?

The inspection of Coal Mine Underground Trolley Systems with Thermography is very important to mine safety. Loose or improper connections of the DC trolley system can cause electrical outages, fires, or even roof falls. The example below shows a trolley insulator that has shorted causing current leakage through the support bolt into the roof. The trolley wire is the positive side of the power supply that is insulated from the roof by using insulators. The rail is the negative side that equipment operates on, similar to a train.



The two pictures above show the trolley hanger where it goes into the roof. You can see the temperature change and heat at the point where the hanger metal rod goes into the roof rock structure. There was an ambient temperature of 46 degrees F in the area, and the roof temperature changing from 63 to 58 degrees F. With the 63 degrees F located where the hanger entered the roof. You can also see the migrating temperature change in the roof. The picture on the left is an IR picture taken in a color palette of Rain 900, and the picture on the right has a color palette of Iron.

- Using Infrared a potential safety hazard was prevented.
- Infrared can be used to check both DC systems like the trolley and AC systems like distribution.
- Infrared can be used to inspect other things such as belt starters, power centers, equipment plugs, and breakers.

**Safety doesn't
happen by
accident.**



The insulator hanger marked with a paper cup so the insulator can be immediately replaced

Any questions feel free to contact Larry Massey
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