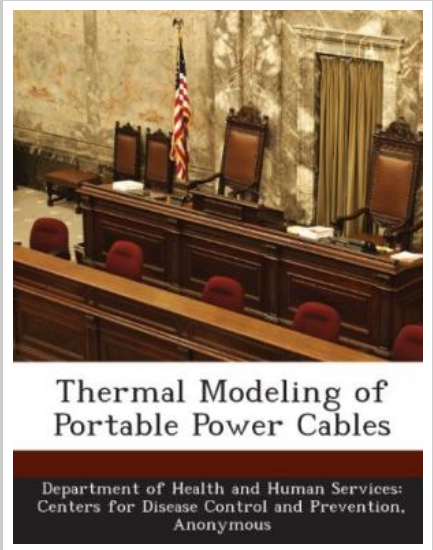

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Thermal Modeling of Portable Power Cables (Paperback)

By -

Bibliogov, United States, 2013. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.The U.S. Bureau of Mines investigated the performance of portable power cables under transient conditions. This research had a twofold purpose: (1) to define the thermal characteristics of electrically overloaded trailing cables, and (2) to conceptualize electrical protection for cables that allows maximum cable efficiency without diminishing electrical safety in underground mines. Several tasks were undertaken in support of these goals during the 3-year research effort. Overload tests ranging from 2 to 12 times rated ampacity were conducted in the Bureau s Mine Electrical Laboratory. Two thermal models of energized type G-GC trailing cables were constructed, one based on thermodynamic theory and the other using empirical data from previous Bureau load tests. The empirical model was then incorporated into an interactive computer program that can assist designers and approvers of mining machines in selecting the appropriate size trailing cable. This program can be the basis for a cable protection system that ensures that cables are not the source of fires, ignitions, burns, or explosions underground.

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Reviews

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