

Mining Application

INTRODUCTION

Mining workers often face unique electrical hazards compared to most industries which requires a unique approach to electrical safety. These challenges make the mining industry one of the most dangerous to perform routine electrical maintenance tasks due to the extremely harsh conditions that personnel operate within. Exposed wiring and cables necessary to power mining operations are also hindered by wet and damp climates and require the utmost care for electrical safety precautions. Dust and gases generate a combustible and deadly combination that can quickly turn small electrical accidents into deadly fires or explosions.

MINING'S ELECTRICAL SAFETY PROBLEM

Mining's electrical fatality rate is 8 to 12 times higher than other industries across the US, with 1 out of 22 electrical injuries in mining resulting in death. This number is staggering considering all other mining-related injuries result in 1 death per 203 injuries.

Nearly 75% of these electrical injuries and deaths happen while personnel are operating frequently used machines, tools, appliances, or lighting.

In underlying condition to the risk associated with performing electrical maintenance in mining is the use of contract electricians. Many of these electricians do not have dedicated experience to this industry, which further elevates their risk. Safer means of verifying voltage presence and testing for absence of voltage.



MINING'S ELECTRICAL SAFETY SOLUTION

Permanent Electrical Safety Devices (PESDs) like the ChekVolt include LED voltage indicators to verify when energy is present and allows qualified personnel to safely test for absence of voltage using their voltmeter with the ChekVolt's external test points wired to the Lockout/Tagout (LOTO) source.

The ChekVolt is conveniently and efficiently installed through a 30mm knockout and can be wired directly to a voltage source. The ChekVolt LED indicators will be illuminated with solid-on or flashing LED lights. When properly incorporated into a facility's written electrical safety program, the ChekVolt protects users during mechanical and electrical LOTO with voltage presence LED indication and test points that allow absence of voltage tests to be performed outside of an enclosure using a voltmeter. The ChekVolt is designed to enhance compliance, productivity, and reduce the risk of shock and arc flash.



During an electrical LOTO procedure, a qualified electrician can test for absence of voltage through the ChekVolt's high impedance-protected test points. This results in a safer and more productive LOTO procedure because the ChekVolt is

installed on the outside of a panel and eliminates exposure to hazardous energy. ChekVolt users have found that their LOTO procedure times have decreased by 35-40 minutes, so the addition of a ChekVolt essentially pays for itself after just 2-3 uses.

ABOUT THE CHEKVOLT®

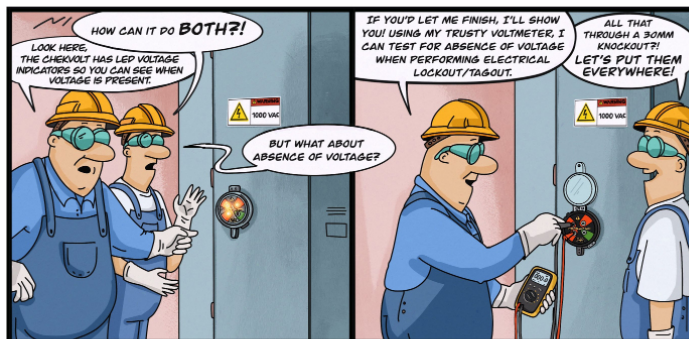
The primary driver for installing a GracePESDs® device is safety, although, along the way they have found improved productivity metrics as the process for completing their LOTO procedure is simpler and more efficient due to the safety enhancements. The ChekVolt PESD features LED indicators that detect voltage presence up to 1000 VAC/VDC and test points compatible with portable test instruments (i.e. Voltmeters) that can test for absence of voltage up to 1000 VAC/VDC.

The ChekVolt's compact design enables a safer and more efficient absence of voltage test from outside of the cabinet, while providing LED voltage presence indication. The device installed through a single, 30mm knockout and includes four terminal connections that make installation quick and simple. The ChekVolt is designed to work directly with a qualified electrician's multimeter and ensures the user has a safer method of testing for absence of voltage while complying with the steps outlined in NFPA 70E Article 120.5.



testing for absence of voltage through high impedance protected test points. ChekVolt is uniquely designed for LOTO procedures and enhances compliance with the steps outlined in NFPA 70E Article 120.5: Process for Establishing and Verifying an Electrically Safe Work Condition.

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