

CDEM-1000

Portable Coal Dust Explosibility Meter

- Measures percent rock dust in coal mine dust samples
- Portable direct-reading instrument
- Instantaneous explosibility indication
- Easy-to-read digital display
- MSHA approved (18-A 110002-0)



The Sensidyne CDEM-1000 Coal Dust Explosibility Meter is a portable, handheld, easy-to-use instrument, which is designed to provide a direct indication of the potential explosibility of a coal and rock dust mixture in accordance with Title 30, Code of Federal Regulations, Part 75.403. Originally developed at the NIOSH Office of Mine Safety and Health Research Laboratory in Pittsburgh, the CDEM-1000 meets the needs of both mining operators and safety inspectors when following the coal dust sample collection guidelines as described in Bureau of Mines Information Circular I.C. 7113 or MSHA Handbook, Number PH-08-V-1.

Current regulations require the application of inert rock dust in all underground areas of a coal mine to mitigate the propagation of a coal dust explosion. The CDEM-1000 is intended to be used by mine operators, safety officials and regulators as a screening tool to help manage daily rock dusting operations and to help mitigate the explosion hazard potential by identifying inadequate rock dusting applications. The CDEM-1000 can also be used as an effective tool by mine operators to help determine a more efficient balance between coal dust and rock dust levels.

The operation of the CDEM-1000 is based on the difference in optical reflectance between the darker coal dust and the lighter inert rock dust. The mixture of coal dust and the lighter inert rock dust becomes lighter in color as the concentration of rock dust increases. The higher the concentration of rock dust, the lower the explosion potential of the coal dust mixture. The instrument is intended to be a "go", "no-go" device which displays a ***RED*** indication for insufficient rock dust levels and a ***GREEN*** indication when the minimum safe level of rock dust is reached. The CDEM-1000 sets the minimum safe level of rock dust at not less than 80 percent in the absence of methane and increases the minimum safe level of rock dust by 0.4 percent for each 0.1 percent of background methane at the sample site.

PRODUCT SPECIFICATIONS

Size	5.4 x 2.4 x 1.2 inches (13.7 x 6.2 x 3.2 cm)
Weight	0.5 pounds (0.23 kg)
Display	LCD
Range	70 – 100% rock dust by weight
Calibration Frequency	Every 200 tests or with a change in rock dust supply
Reflectance Standard	
Check	Every 1000 tests
Power	9 volt alkaline battery (Duracell MN1604)
Power Functions	Low battery indicator and auto power down
Operating Temperature	
Range	10 to 40 degrees C (50 to 104 degrees F)
Accuracy	+/- 2% rock dust for dust mixtures above 70% rock dust when proper sample preparation and unit calibration is performed
Extended Red Display	Displays a % rock dust range for ***RED*** indications at or above 70% rock dust

Product specifications and descriptions are subject to change.
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Ordering information for the CDEM-1000 Kit

810-1101-01 CDEM-1000 Deluxe Kit

