

Online Moisture Analyser Achieves Test Report Approval in IECEx Certification

Callidan Instruments has engineered a robust solution to make it easier to control process and environmental issues within hazardous zones.

Recently, a large power generation utility engaged Callidan Instruments to engineer a solution to measure the moisture of coal in a number of hazardous areas onsite. Installation of 2 MoistScan® MA-500HD online microwave moisture analysers formed an integral part of a whole-of-site dust management and control project.

The project required the analysers to be situated at the opening of a conveyor tunnel which is a designated hazardous zone with a rating of 21 where suspended dust has the potential to create an explosion. Given this, the analysers had to be IECEx certified.

IECEx is a voluntary, global certification scheme based on the International Electrotechnical Commission's international (IEC) standards. The aim of the scheme is to ensure that electronic instrumentation used in hazardous locations do not pose a safety risk.

Each MoistScan® analyser was custom built with specialist intrinsically safe components and DIP rated enclosures. As part of the certification process the analysers were put through a rigorous testing regime prior to installation. This involved destructive and non-destructive testing to ensure that all components and systems met or exceeded predetermined limits. In particular the analysers had to demonstrate that there was no potential to generate a spark and that they had adequate heat dissipation of all electrical and electronic components, such that no exposed surfaces exceeded a temperature of 85°C even during extreme operating conditions. All exposed electrical components, gaskets and seals were tested to make sure they could withstand long term UV degradation, high impact and environmental thermal extremes.

Adrian Russel, National Sales Manager for MoistScan® said that IECEx certification was a costly and time consuming exercise. This aside, it opened up opportunities to supply our MoistScan® real time microwave moisture analysers into a multitude of potentially explosive atmospheres such as locations made up of gasses, vapours, mists or dusts.

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