

Why Use Microwave Analysers?

- ▶ Consistency and better accuracy over other types of methods. eg: NIR (near infra red)
- ▶ Microwave technology is safe and reliable.
- ▶ Unaffected by material presentation & colour variations.
- ▶ Continuous Real Time results.
- ▶ Unaffected by changes in layer thickness.
- ▶ Fast processing of materials. 100% of material presented is analysed.
- ▶ No Radioactive sources. No Govt red tape for installation or costly radiation source disposals.
- ▶ No moving parts that can wear.
- ▶ Less maintenance.
- ▶ The output signal strength is far less than that used in a typical mobile telephone handset.
- ▶ At a distance of 1 metre from the antenna the microwave output is basically negligible.
- ▶ Compared to other types of technology, microwave is proving to be far more consistently reliable.

MoistScan is Safe..

Our microwave moisture analysers are designed to use low level microwave radiation for the determination of total moisture within the product. The microwave power emitted from the lower antenna is approximately 0.1milliWatts. This radiation level only exists directly between the two antennas and in almost all cases is inaccessible due to the conveyor belt. Microwave radiation further than 1 metre from the analyser is virtually undetectable.

As an example, microwave ovens are legally allowed to leak radiation of up to 5 milliwatts/cm² (National Health and Medical Research Council 1985). During commissioning a Callidan engineer can demonstrate with a simple microwave leakage monitor that the radiation levels around the MA-500 are far less that what is legally required from a commercial microwave oven.

NEW! High Density Analyser.

The measurement of the moisture content of materials is a key control parameter in a very wide range of industrial processes. There is strong interest in using on-line techniques for the accurate and rapid measurement of moisture in materials carried on conveyors, in chutes and in pipelines.

Microwave based techniques are the leading technology for on-line measurement of moisture in bulk materials.

However, most current commercial microwave moisture analysers are not suited to highly attenuating materials. This detracts from their application in the analysis of iron ore and mineral concentrates. To overcome these problems Callidan Instruments have designed a High Density version of their MA-500 on belt analyser.

The HD version uses hardware developed for the mobile telephone industry and has helped in the production of a unit that uses no radioactive sources. The technology gives an improved dynamic range of measurement, superior measurement accuracy, high stability and significantly reduced purchase cost over other available technologies.