

Wolf Dynamic Dry Film Thickness Measurement and Monitoring

Excellence in Innovation

DFM1

wolf
innovation

Precisely monitor production coating thickness in real time – no calibration is required regardless of paint system

Wolf Dynamic Dry Film Thickness Measurement and Monitoring instrumentation provides dynamic continual measurement and monitoring of dry film thickness as soon as the product is out of the oven. The instrument is located as near as possible to the exit side of the topcoat oven in a mechanically stable position; for instance, where the strip passes over a fixed roll.

Measurements are programmed at selected intervals and results are presented dynamically in real time. The thickness of painted metal strip is typically variable over short distances due to the topography (surface roughness) of both the underlying metallic substrate and the paint coating itself. Individual DFM1 measurements are collated and statistically analyzed to provide a detailed insight into coating characteristics and consistency. The system is insensitive to variations in substrate thickness and calibration is not required for different paint types.

Achieve consistent coating standards without waste – improve environmental efficiency and reduce greenhouse gases while saving money

The integrated readings of DFM1 and WFM1 can detect and confirm any drift in coating thickness during the actual coating production itself. Depending on whether the system selected is manual or automated, an alarm will be raised or the system can adjust and maintain the coating thickness by controlling coating parameters. All actions and results of the system are recorded in a database.

DFM1 works hand in hand with the wet film measurement instrument WFM1 to provide complete monitoring and control at every stage of your coating operation

Principle of Operation

A laser periodically etches a tiny 0.2mm diameter hole through the paint without removal of any of the underlying metal. The hole profile is measured by a second laser downstream at up to 30,000 times per second. Sophisticated data analysis algorithms convert this dynamic non contact laser data into a precise measurement of coating thickness. Reliability of the measurement has been thoroughly validated.

Measurements are made near the strip edge in a region of the product that would typically become a cladding overlap region. The frequency of measurements is set by the operator, and one or two measurements are typically required per tonne of coated product.