

Technical innovations

Surface treatment

Thermo Electron Corporation produces hot coating weight gauges for hot-dip galvanizing lines.

System features. Designed to provide reliable, proven sensor technology, Thermo Electron's [Radiometrie RM 300 EH](#) and [Radiometrie RM 310 EH](#) gauging systems provide precise, non-contact length profile measurement of hot dipped metal coatings directly above knife machinery for Zn, Zn/Ni, Sn, Al, Zn/Al (Galfan/Galvalume), Pb/Sn (Terne), Sn/Zn, Zn/Fe (Galvanneal) metal coating applications. This method dramatically improves coating weight control due to shorter dead time, which results in raw coating material savings, and significant improvement of coating weight control performance.



Zinc Coating gauge in operation

Installation. The system is mounted in the ideal location for the shortest feedback time for air knife positioning and pressure control. The gauge configurations of the Radiometrie RM 300 EH/Radiometrie RM 310 offers a distinct advantage for auto-control systems due to the dead time between the actuator and measurement being kept to a minimum, resulting in faster galvanizing set-up time and reduction in overall scrap.

Sources. The sensor heads of the Radiometrie RM 300 EH are equipped with gamma-ray sources to provide the incident radiation required to fluoresce the metal strip and/or coating. The Radiometrie RM 310 EH series hot measuring heads use industry-leading X-ray sources for coating weight measurement of both the top and bottom side of the strip. These sources allow for faster response time while offering all the specific advantages of X-ray generation.

The gauges' **measuring heads** are mounted on detector supports that can be driven independently to the measuring or calibration positions. The measuring heads of both the Radiometrie RM 300 EH and Radiometrie RM 310 EH series are installed in water-cooled detector housings that contain additional sensors for monitoring the distance from the strip and the air and measuring head temperatures.

Article appeared in MPT International December 2003