

EMG - Looking to a great Future

About EMG Automation GmbH

EMG Automation GmbH, a member of the clexis group, is one of the world's leading suppliers of control and quality assurance systems for automated manufacturing processes and brake thrusters. EMG operates in the field of high speed continuous production processes in the metal, paper, foil, plastics and tyre industries with additional applications for drive engineering, strip guiding systems and electro-hydraulic thrusters. EMG has its own factories in Wenden, Oschersleben and Bielefeld in Germany; Elmhurst/USA; Belo Horizonte/Brazil, Osaka/Japan, Beijing/China and Baroda/India.

EMG-eMASS

EMG-eMASS is an electro magnetic damping system for the reduction of strip oscillation in high speed production lines in the steel industry. The main field of application is in hot-dip galvanizing lines. EMG-eMASS is often directly installed on the air knife equipment used for wiping off wet zinc. Due to strip oscillation directly in the air knife the zinc layer thickness may vary across the strip width and along the strip length.

Reducing the extent of oscillation using EMG-eMASS leads to a more homogeneous zinc coat. Zinc over-coating to ensure that customer requirements for a minimum zinc layer thickness are met (frequently in the range of 10 % of the surface weight) can be avoided. Also, a more homogeneous zinc layer with no "crossbow" effect can be achieved.

Another major application for EMG-eMASS is the installation in the cooling tower of a hot-dip galvanizing line. The cooling blowers may induce torsional vibration of the strip, which may result in strip contact with the blowers. Using a strip stabilization system, these oscillations are almost completely eliminated and damage to the strip surface is positively prevented.

Customer benefits

- Homogeneous zinc layer across strip width and along strip length
- Zinc savings thanks to reduced over-coating
- Stable pass line and reduction of "crossbow"
- Enhanced weldability
- Focussed, reliable production of low layer weights in hot-dip galvanizing lines
- Increased material throughput
- Avoidance of strip damages (for the installation in the cooling section)



Fig.1: Schematic representation of the installation at the air knife



Fig.2: eMASS at the hot-dip galvanizing line FBA1 at ThyssenKrupp Steel AG in Duisburg, Germany

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