



Gas Catalytic IR improves powder coating process of gas tanks

Propane tank manufacturer Metsa from Nuevo León, Mexico is a family-owned and operated company. For more than 50 years, they have been involved in the sale and distribution of propane tanks, so Heraeus completely understands the high level of quality and specifications required on every pressure vessel.

With the increased level of business and competition, shorter lead times and were being demanded by Metsa's distributors. Ongoing success had created a marked increase in output and the decision was made to change the old and inefficient convection batch process over into an in-line Gas Catalytic IR oven system. Also, the old system was not keeping up with the required production volume and had some inherent problems such as an uneven cure due to uneven air flow. This caused large temperature differentials from top to bottom of the tanks and occurred especially around the heavier collars and angular support feet. Potentially, this could lead to coating damage during shipment, poor resistance to sunlight and even color variances.

Space was at a premium, and with a required line speed of 0.75 – 1 m/min, depending on product size, the oven length was a major factor in the decision making process. Testing was initiated at the Heraeus plant in Buford GA that resulted in a 10m IR oven being recommended and built to meet the overall requirements.

The precise 10 zone temperature control of the new Gas Catalytic IR system has eliminated the under curing problem as it allows extra intensity IR to be applied at the top and bottom of the tanks where the heavy collars and angular metal feet are located. The Heraeus system now ensures an evenly, well cured powder coating. There are a number of significant additional benefits that have been realized since production started. The new Gas Catalytic IR system now runs on natural gas instead of propane, which has resulted in a double saving as Gas Catalytic IR inherently uses less gas and natural gas is less expensive than propane. Operating costs have been reduced by an impressive 75%. Other noticeable improvements include the anticipated higher production volume, lower reject rates and a faster cool down time of the tanks.

The CEO of Metsa, Humberto Garza, remarked:

"What is really important to METSA is to have the peace of mind that we build stellar products. Great attention to detail is given in selecting the best materials and equipment to ensure the best quality and design for each of our tanks. Heraeus was an instrumental partner in setting up our revolutionary and automated paint line. We look forward to working with them on other projects."



Features

- Improved curing powder coating
- Reduction of operation costs
- Shorter cool down time
- Improved quality
- Small footprint

Technical Data

- Gas Catalytic IR powder coat curing
- Precise 10 zone PLC Control
- Line speed of 0.75-1 m/min
- In-line system

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