CASE STUDY

# Tube & Pipe :
# Reduced Drying Time With Water Based Coating Replacement

QUAKERCOAT® 856 GREEN

## The Challenge

A tube and pipe manufacturer wanted to replace the solvent based paint coating that was used on their couplings inserts due to the hazards associated with that coating including fumes and flammability risks. By switching to a water based technology, the company wanted to:

- Reduce workers' exposure to solvent health hazards
- Benefit from the environmental friendly properties
- Reduce drying time

The replacement coating had to be evaluated under the current handling and drying process conditions to determine if it could deliver a similar performance compared to the existing coating.

## The Solution

Quaker Houghton selected the water based coating, QUAKERCOAT® 856 GREEN for evaluation. The formula was customized to match the color tone, appearance, and flexibility; and to work with the limitations of the existing equipment. Additionally, the product properties were modified to be able to comply with downstream process requirements including the forming press.

Application tests were performed to fine tune the properties of the coating with the goal of achieving a drying time than the 45 minutes needed with the solvent based coating. Two drying approaches were tested with the QUAKERCOAT® 856 GREEN prodviding the following results:

- Oven assisted drying at 40° C = 10 minutes
- Ambient air drying with ventilation = 15 minutes

## The Product

QUAKERCOAT® 856 GREEN is a non-flammable, water based paint coating with low VOC emissions. It is applied without diluting or adjusting viscosity. QUAKERCOAT® 856 GREEN provides uniform coverage during application and excellent durability and performance. In addition, it has high flexibility for press conditions after painting.

## The Benefits

**The switch to QUAKERCOAT® 856 GREEN resulted in:**

- Reduced drying time to 15 minutes which was 66% less versus the solvent drying time
- Similar color finish as the solvent coating with minimal differences in brightness
- Improved coating appearance with no foaming and no runoff
- Less fumes as reported by line worker feedback
- Reduced insurance costs due to the elimination of the hazards involved with low flash point coatings
- Approved coating flexibility performance as tested in the pressing application

Performance comparison – Similar paint finish under press conditions with QUAKERCOAT® 856 GREEN (left) versus the solvent based coating (right)

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