



Epoxy coating for wind towers

CASE STUDY

Challenge

Ameron, a high-production manufacturer of wind towers and water transmission pipe, wanted to increase quality control and consistency in applying a 4:1 epoxy coating. At the time of this study, the manufacturer was spraying over 40 wind towers, comprised of three-sections, which approached a total of 850,000 square feet (78,968 m²). They were also applying epoxy to approximately 1,900 linear feet (579 m) of water transmission pipe with a total square footage coverage of approximately 65,400 feet (6076 m²). Interior and exterior hand applied spray times averaged 45 minutes per wind tower section and individual hand applied pipe spray times averaged 30 to either side.

Solution

Graco distributor, Shelton Fluid Technology, installed the Graco XP70 Plural-Component Sprayer utilizing existing supply pumps, fluid lines, heaters, remote mix manifold and spray gun.

Results

Troy Parrack, Ameron's general coating operations foreman, and his crew immediately commented on how smooth the material sprayed out of the gun. They also commented on how well balanced the unit was during applications, noting that the outbound fluid gauges on both "A" and "B" sides seemed to be identical in pressure. In addition, the XP70 has worked flawlessly since the unit was placed into service. Ameron found the unit to be very quiet and the optional built-in data tracking module accessory simple and easy to use. It is estimated that well over 5,000 (22730 l) mixed gallons epoxy coatings have been sprayed with this unit. The general foreman was impressed with the Graco XP70's operating simplicity and easy maintenance.



A Graco XP70 Plural-Component Sprayer was installed to increase quality control and consistency when applying a 4:1 epoxy coating in a wind application.

SPECIFICATIONS

END USER

Ameron International Wind Tower Division
Rancho Cucamonga, CA

INDUSTRY

Wind energy

APPLICATION

- Applying 4:1 epoxy coating to wind towers

WIND TOWER MATERIAL SPECS

Hempadur 47140

- Intermediate or finishing coating epoxy systems in medium to severely corrosive atmospheric environments
- Two-component polyamide adduct cured, high build epoxy paint which combines relatively high volume solids with a short drying time

Material Supplier

- Hempel

Typical Properties

- Ratio (A:B) by volume: 4:1
- 70 percent solids
- Chemistry: Epoxy Coating
- Colors: Light gray, cream
- Pot life: 1 hour at 68°F (20°C)
- Cure time: 2 hours at 68°F (20°C)

WIND TOWER TRANSMISSION PIPE MATERIAL SPECS

Carboline Plasite® 4500

- 100 percent solid, flake-filled, high performance epoxy coating for internal tank lining for chemical or other commodity storage
- Can be applied by plural-component sprayers in one-coat applications up to 20-60 mils (500-1500 microns)

Material Supplier

- Carboline

Typical Properties

- Ratio (A:B) by volume: 4:1
- 100 percent solids
- Chemistry: Epoxy Coating
- Colors: Light grey, tile red, blue, & white
- A side should be applied at a minimum of 110°F (43°C)
- B side at 90-100°F (32-38°C)
- Pot life:
 - 30 to 40 minutes at 35°F (2°C)
 - 15 to 25 minutes at 75°F (24°C)
- Cure time:
 - Dry to touch: 6 hours at 75°F (24°C), 8 hours at 35°F (2°C)
 - Firm to touch: 8 hours at 75°F (24°C), 16 hours at 35°F (2°C)

GRACO EQUIPMENT

- Graco XP70 Plural-Component Sprayer (571401)



The Graco XP70 Plural Component Sprayer provides high-pressure performance for spraying high-viscosity, high solids coatings.

Picture shown is a complete system.