

ChemLine® Coatings Offer Advanced Corrosion Protection for Demanding Power Industry Needs

ChemLINE®
CASE STUDY

ChemLine® high performance coatings from Advanced Polymer Coatings offer corrosion protection in many industrial applications, and are particularly suited for the Power Generation Industry.

The Power industry's high temperature and high corrosion resistance requirements cause many traditional coatings to crack, flake off and degrade under tough operating conditions. ChemLine® coatings however, are formulated with unique, patented polymer technology that creates high cross-linking to overcome these problems. ChemLine® coatings are extremely durable, withstanding abusive and demanding environments in FGD systems, scrubbers, stacks, ducts, chimneys, spray towers and fans.



Key ChemLine® Performance Features

- Superior bond strength and adhesion
- High chemical resistance to hot flue gases, Condensing HCL, SO₂, H₂SO₄
- Excellent thermal cycling resistance: -40°F to 400°F (-40° to 204°C)
- High abrasion resistance
- Resistance to fly ash and particulates
- Reduces ash build up
- Excellent vessel lining, handling over 5,000 types of acids, alkalis, gases, solvents

ChemLine® Applications at Power Facilities

Protecting Booster Fans in FGD Stacks



(Left) At this coal-fired plant, the carbon steel booster fans in the FGD stacks exhibit severe corrosion problems and need to be coated. (Right)



The fan blades now coated with ChemLine® in this close-up inspection photo shows excellent performance against the corrosive flue gas/chemical service conditions.



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Lining Pipe & Scrubber for Corrosion/Temperature Resistance



(Left) At this steel bar- and wire-producing facility, severe pipe and scrubber corrosion is caused by gas containing 5% Hydrogen, 5% Sulfuric Acid, and a slurry of iron dust, carbon and water, that travels through a 120-meter pipeline and empties into a large

scrubber. Temperatures of this mixture can reach as high as 248°F/120°C. (Right) Both the pipe and the scrubber now lined with ChemLine® deliver outstanding corrosion and temperature resistance.

Solving Severe Stack Corrosion and Other Problems



(Left) At this coal-fired power facility the 180 meter high, carbon steel stack lined with a competitor's coating severely delaminated only after 10 months of service as this photo (center) shows near the top of the stack. Normal operating temperature is around 140°F/60°C but at times it reaches up to 233°F/112°C. (Right) After blasting out the previous coating, the top section of the stack is now lined with ChemLine® and

heat cured, covering an area of 20 meters high x 5-1/2 meters in diameter. After successful performance, the customer requested ChemLine® coating be applied to stack tunnels, condenser lines (sea water lines), process water tanks and concrete neutralization pits.

Solving Severe Stack Corrosion and Other Problems



(Left) At this FGD system operation at a coal-fired power plant, flue gas attacks the alloy construction of reheat tubes after wet scrubbing. (Right) The reheat tubes

are now coated with ChemLine® and the scrubber is now working at peak performance.