Case Study

Devcon® Wear Guard™ Fine Load Protects Electrostatic Precipitator from High Temperature Abrasion

The electrostatic precipitator in a coal plant uses charged plates to separate dust particles from exhaust. This vital piece of equipment ensures that dust and ash from flue gas do not enter the atmosphere. With tightening environmental regulations, it is important the electrostatic precipitator is effectively maintained to specifications.

Coal-fired Power Station

Problem:

Fine coal dust was causing severe abrasion in a coal dust collector (electrostatic precipitator) at temperatures of 90ºC / 194ºF. This required repairing the entire bottom half of the damaged electrostatic precipitator. The customer had a short window of only two days for maintenance repairs and needed a solution that would provide abrasion protection for 12 months to prevent equipment replacement. This client was looking for a durable high temperature, abrasion resistant coating that would stand the test of time.

Solution:

Devcon Wear Guard Fine Load was installed to protect the electrostatic precipitator and maintain plant productivity.

- To prime the surface, the bottom of the electrostatic precipitator was sandblasted to white metal.
- Steel mesh was welded into the surface of the equipment to provide additional metal support.
- Devcon Wear Guard Fine Load was mixed using the Power Mixer.
- The coating was then applied to the equipment filling in any cracks to the surface. The equipment was left to cure for a total of 8 hours.

Coal dust collector facing abrasion in bottom half of equipment

Project Outcome:

High Temperature Resistance

Due to high heat exposure, coal plant equipment is susceptible to wear and must be repaired to prevent full replacement. Devcon Wear Guard Fine Load provides temperature resistance of up to 150°C / 302°F. By lining the bottom of the electrostatic precipitator with Devcon Wear Guard Fine Load, the equipment will withstand extreme environments extending equipment life.

Quick and Easy Installation

This coal plant needed to keep maintenance repairs of all equipment under two days to prevent an extended shut down and loss of productivity. Devcon Wear Guard Fine Load was installed within the two-day requirement of the plant ensuring that plant operations would resume promptly. Devcon Wear Guard Fine Load was safely and effortlessly installed with a three-person crew by following a few simple application instructions.

Long-term Durability

Devcon Wear Guard Fine Load effectively protected the electrostatic precipitator for the full 12 month time frame successfully extending the equipment life. The Devcon solution proved to be cost-effective in comparison to other more expensive and time-consuming alternatives such as welding.

Application of Devcon Wear Guard Fine Load to coal dust collector

Devcon Wear Guard Fine Load coating has excellent high temperature resistance in both dry and wet environments making it suitable for protecting and extending the life of processing equipment in a variety of industries.