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Case Study: Coal Fired Power Plant - ABRA-SHIELD® Abrasion Resistant Material

INDUSTRY
Power Generation

CUSTOMER
Large Midwest Coal Fired Power Plant

BACKGROUND
A large Coal fired power plant was upgrading / replacing the pumps in their flue gas desulfurization (FGD) system. The FDG system is designed to remove sulfur dioxide from flue gas as part of stringent environmental emissions regulations. When the facility began replacing their pumps they realized the competitors' natural gum rubber expansion joints were showing signs of degradation despite being less than 5 years old. They had planned to reinstall the original expansion joints with the new pumps, but after an examination they quickly determined that they needed to be replaced.

CHALLENGES FACED
The competitive expansion joints showed signs of being hard and brittle from excessive heat and were cracking at the base of the flange. When examining the liner of the expansion joint it became evident that the tube had become thin at certain wear points due to abrasion from the limestone slurry.

OPERATING CONDITIONS
Size - 31.5" ID x 14.5" FF
Temperature - between 190°F and 200°F (88°C and 93°C)
Application - Flue gas desulfurization pumps
Media - Limestone slurry
Pressure - 70 psi

SOLUTION AND BENEFITS
ABRA-SHIELD® is the only available expansion joint material that is specifically engineered to handle abrasive, high temperature media. Because the competitor's expansion joint showed signs of wear due to the aggressive limestone slurry and degradation from high temperatures, Garlock recommended the Style 206 EZ-FLO® with an ABRA-SHIELD® tube. The expansion joint has been in service for nearly 3 years with no sign of heat degradation or wear. The combination of being able to accommodate a non-standard flange with a high temperature and abrasion resistant liner made installation a breeze and provided comfort to the customer. They have since replaced several more joints on their FGD pumps and plan to replace all expansion joints in the system with ABRA-SHIELD®.

For more information, please visit:
http://www.garlock.com

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