

Case Study: Garlock Industrial Hose w/ ABRA-LINE® Liner - Coal Power Plant



INDUSTRY

Power Generation

CUSTOMER

Coal Power Plant

BACKGROUND

Many coal fired power plants utilize FRP (fiberglass reinforced plastic) pipe on the discharge side of their limestone slurry pumps. In 2005 the Environmental Protection Agency issued the Clean Air Act which required a significant reduction of SO². Due to the mandate that coal fire power plants must comply with the regulations by 2015, many coal plants installed a WET flue gas desulfurization system which included the installation of FRP Piping.

CHALLENGES FACED

While wet limestone slurry scrubbing is an extremely effective way to keep SO² emissions below required levels it does have some drawbacks. Limestone by nature, even as a slurry, is highly abrasive. This power plant was seeing an extremely short service life of their FRP piping that was being damaged by the abrasion from the limestone. The plant found itself needing to change their FRP piping every 6 months which created significant production and efficiency losses.

OPERATING CONDITIONS

Size: 5" x 8" Flanges x 60" OAL with 150 LB Flange Size

Temperature: 100 - 120°F (37 - 48°C)

Application: Limestone Slurry Pump Discharge Piping

Media: Limestone Slurry with 65% Solids

Pressure: 100-125 psi

SOLUTION AND BENEFITS

Garlock, in conjunction with distribution and the plant engineering team designed a tapered Garlock Industrial Hose with ABRA-LINE® for discharge to replace the problematic FRP piping. ABRA-LINE® was developed for highly abrasive applications such as limestone. It has been proven to reduce wear and extend service life by causing even the most aggressive media to simply slide over the liner rather than dig in and remove material. The plant also reported that the yellow liner made it easy to inspect in helping to determine if they were due for replacement. The Garlock Industrial Hose with ABRA-LINE® for discharge was installed in September of 2018 with a target service life of 8 months. After 2+ years, the Garlock Industrial Hose is still installed and showing no signs of wear. The plant is elated with the service life and intends to replace the remaining FRP pipe pieces with Garlock Industrial Hose.

For more information, please visit:

<http://www.garlock.com>

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