Sauereisen Introduces a New Trend in Chimney Foundations…

Sauereisen Inc. of Pittsburgh, PA reports a new method of construction and maintenance gaining prominence in the power industry. The application involves rehabilitation of chimney flooring at coal-burning plants.

This area, commonly referred to as the lead pan, requires extensive physical stability because of imposed loads. In addition, sulfuric acid precipitate from the flue gas stream demands a high degree of chemical resistance.

Traditional practices call for a brick floor with appropriate mortar. Original installation and eventual maintenance are very laborious which adds to downtime and expense.

Sauereisen's approach is a much more user-friendly system of polymer concrete. *Acidproof Concrete No. 54 – Structural Grade* is the latest generation of potassium silicate technology by Sauereisen. Expanding upon the original gunite grade of Acidproof Concrete, Sauereisen has modified its proprietary blend of aggregate to offer a more durable castable for horizontal applications.

No. 54 Structural Grade has been available for the last decade. Most often it has been used for quick turnaround projects in the chemical processing and refining industries.

In 2002, Pullman Power of Kansas City, MO installed six (6) inches of No. 54 SG Structural Grade upon a 26-foot diameter lead pan. After demolition of existing brickwork and repair of the lead pan, the Pullman crew placed 68,000 pounds of material utilizing a 10HP continuous mixer. It took a five-person crew less than seven hours to place the polymer concrete. Pullman's team hoisted the mixer to the exterior platform located above the floor. Material was delivered 30 bags at a time while the liquid component was pumped from outside the stack to the 80-foot platform level. Three men worked from the platform delivering 1,800 pounds of mixed product to the finishers via an assembled trough every 5-7 minutes. The entire floor was cast in only four quadrants and forms were removed upon completion of work to permit rapid installation.

Since the original installation of Sauereisen's polymer concrete to rehabilitate a chimney floor, other facilities have followed suit. Pullman exceeded their first job by placing another 75,000 pounds at a utility in Hallsville, TX. The continuous mixer enabled a complete project within eight hours. In a similar project, R&P Industrial Chimney of Kentucky placed Sauereisen No. 54-SG on a chimney floor located in Mississippi.

Attractive features of the material include compressive strength exceeding 4,000 psi, temperature resistance to 1400^{o} F, and a tolerance to full concentrations of sulfuric acid. Where a broad range of chemicals are present and even greater

physical strength is required, Sauereisen produces polymer concrete in epoxy, novolak, and vinyl ester formulations.