

POWERFUL SOLUTIONS

FOR THE

POWER INDUSTRY



SAUEREISEN

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A Wide Range of Applications

The infrastructure for containment, collection, and disposal of Flue Gas Desulfurization (FGD) effluents are highly corrosive environments. Protecting the stacks, floors, scrubbers, ducts, and treatment equipment is essential to minimizing costs. As a world leader in manufacturing corrosion resistant materials of construction, Sauereisen applies over a half century of power industry experience to offer proven, cost-effective solutions.

As power stations enhance facilities to meet environmental regulations, Sauereisen is the single-source for corrosion resistant materials and engineered solutions.

Stack Liners

Some chimneys that are exposed to higher exit gas temperatures may require either a gunite refractory or a brick & mortar system. The conditions present within these structures such as higher temperatures, particulate abrasion, by-pass conditions and gas stream chemistries can be solved by inorganic, potassium silicate or calcium aluminate materials. Incorporation of a high temperature, organic membrane behind the refractory has historical success at prolonging the life of the stack liners. Many of the older liners require maintenance and Sauereisen manufactures the materials to repair these structures.

Dual Lining Systems. The combination of Sauereisen's Potassium Silicate or Calcium Aluminate technologies and an organic asphaltic membrane has been used as a dual-lining system with excellent results for over 50 years. The Sauereisen Dual Lining Systems are commonly referred to as "89/54", "89/54LW" or "89/35" among industry professionals.

Acidproof Concrete 54, a potassium silicate cement, resists full concentrations of sulfuric acid and withstands temperatures to 1250°F (677°C). The 54LW formulation offers lower density and better thermal protection while withstanding continuous temperatures to 1600°F (871°C).

Chemical-Resistant Castable 35 is a gunitable, hydraulically-setting, calcium aluminate cement that withstands temperatures to 2100°F (1149°C) while resisting mild acid & alkali chemistries.

High Temperature Membrane 89 is a single component acid/alkali resistant asphaltic mastic applied over anchors and substrate. This low permeability membrane has a maximum service temperature of 300°F (149°C) and protects against acid condensation while its elastomeric properties accommodate the varying rates of thermal expansion between refractory and substrate(s).

Corrosion-Resisting Mortar 65 has been used for decades in brick & mortar chimney linings. It is a 2-component potassium silicate chemistry resistant to acids through 1250°F (677°C). The 65 mortar is chemically activated and does not require an acid wash prior to flue gas service.



Stack Floors

When considering replacement of brick & mortar stack floors or repairing existing structures, the use of inorganic potassium silicate or calcium aluminate polymer concretes may be preferred versus a gunite application or brick restoration. These polymer concretes are installed by casting. A continuous mixer can be used to increase application efficiencies. These products can also be used in the construction of sumps, dikes, trenches, and columns exposed to acidic conditions. Sauereisen Polymer Concretes reduce costly downtime with return to service in 48 hours or less.

Acidproof Concrete - Structural Grade 54SG

is a potassium silicate effective through 1400°F (760°C) service conditions

Chemical-Resistant Castable 35SG

is a calcium aluminate material good through 2100°F (1149°C).

Epoxy Novolak Polymer Concrete 265

& Novolak Vinyl Ester Polymer Concrete 465

are available where both acid & alkali exposure is dominant, temperatures are lower, and increased compressive, tensile and flexural properties are required.

Ducts



Bypass ducts routed around scrubbers contain hot acidic gases, making the dual lining systems of 89/54, 89/54LW or 89/35 an economical selection for these structures. The selection of system will be determined by temperature, chemistry, and other operating conditions.

Scrubber Ducts contain lower temperature gases which allow for the use of vinyl ester & epoxy fiber-reinforced novolak lining systems. The incorporation of fiber into the resin system increases the tensile & flexural strength of the resin system and resistance to vapor & liquid permeation. The fiber-reinforced linings offer a faster & more economical alternative to mat-reinforced systems.

FibreLine 440 is a novolak vinyl ester, fiber-reinforced material that resists most acids & alkalis through 250°F (121°C). An optional topcoat of VEGlaze 472 can be incorporated to provide additional protection and smoother surface texture.

FibreCrete Epoxy NovolaK 218 is fiber-reinforced, epoxy novolak used for the protection of concrete and steel from chemical and physical abuse through 180°F (82°C).

Cooling Towers

Biocide chemicals, freeze/thaw cycling, and potential bacterial corrosion are common problems that cause concrete damage in cooling towers. Repairing and restoring the structural integrity is quickly accomplished with Sauereisen F-120 ShotCrete material.

F-120 ShotCrete is a Portland based, nylon fiber-reinforced material. The nylon fiber addition aids in increasing physical properties and controls shrinkage development. This product is pumped through specialized pneumatic equipment permitting faster repairs on vertical and overhead surfaces.



F120 ShotCrete (wet or dry pack)
in coal fired power plant cooling tower



Water Treatment

Wastewater from the FGD process is collected and purified before emitted in the aquafer system. The collection tanks, trenches, clarifiers that separate solids and other treatment areas require protection. Most applications are well-suited for fiber-reinforced epoxy lining systems. Neutralization basins may require a furan mortar brick system or an organic, polymer concrete for rehabilitation.

SewerGard® 210SN, 210TN, and 210GN are specially formulated materials for protection of concrete or steel structures common to industrial wastewater collection systems. The demands of the project will determine if you require a trowelable, fiber-reinforced or thinner coating formulation.

Secondary Containment

Sauereisen offers urethane, epoxy novolak and vinyl ester coatings that will meet the demands of your concrete secondary containment needs. These materials can be applied by plural component spray, airless spray or brush & roll, depending upon available equipment and the size of the area.

ConoFlex Urethane 381 is an aromatic polyurethane that provides excellent flexibility and impact resistance for chemical environments.

ConoGaze Epoxy Novolak 228 & Vinyl Ester 472 may be required for secondary containment depending upon the potential chemical exposure.





We've Got You Covered

Sauereisen brings decades of experience in developing, manufacturing and marketing corrosion-resistant materials for protection of various structures in power plants and related facilities. ...**Since 1899**

Please contact us so we can assist you with a product recommendation or answer any questions you may have.

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