

SAUEREISEN

ENGINEERED SOLUTIONS
FOR THE
POWER INDUSTRY

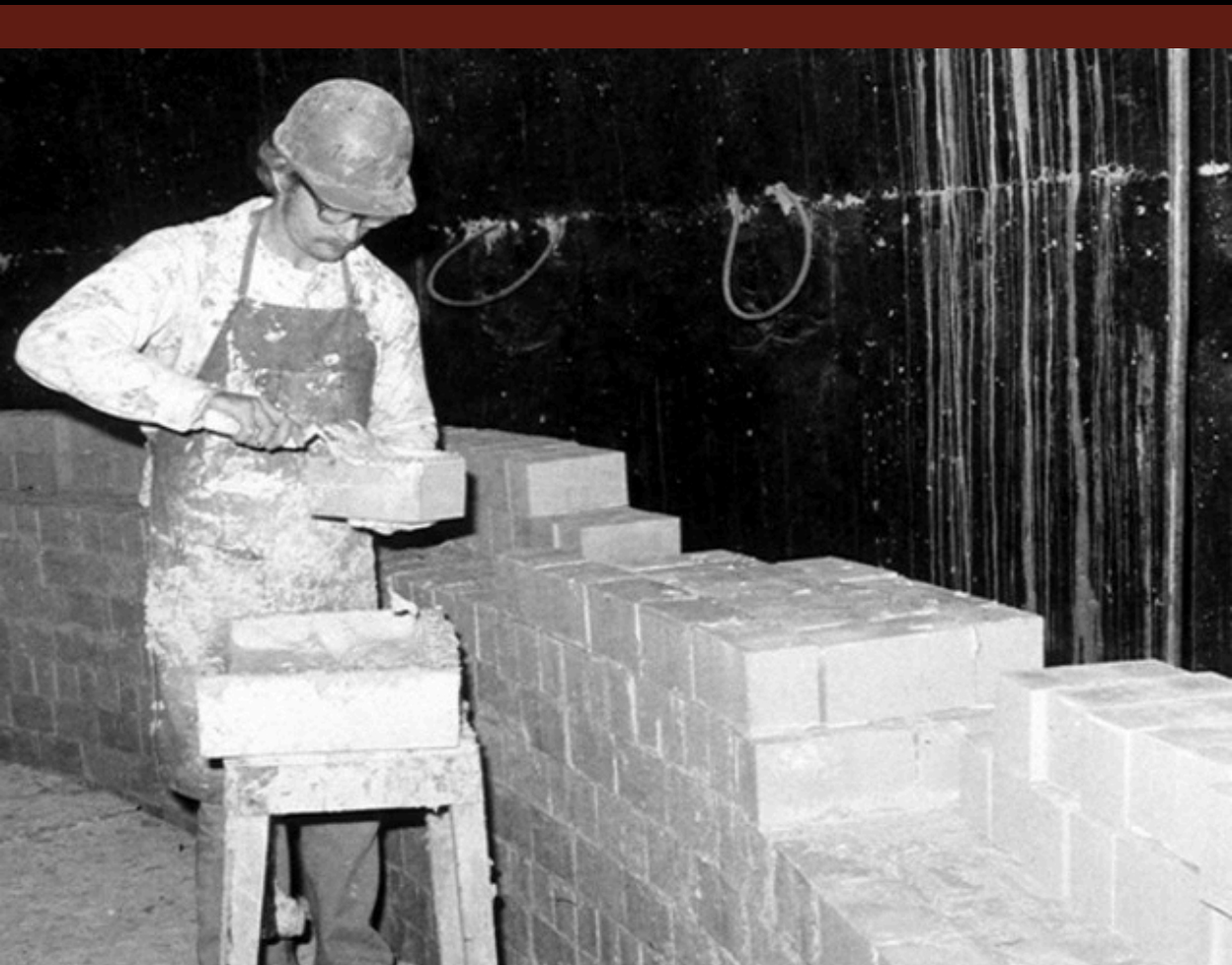


OVER A CENTURY OF EXPERIENCE

Sauereisen Cements was founded in 1899 with the introduction of a line of high-temperature inorganic adhesives by C. Fred Sauereisen.

In time, the heat- and acid-resistant **properties** of the cements suggested expansion into corrosive applications. Sauereisen further expanded into industrial markets as a result of innovative formula modifications that enabled the specialty cements to be used as chimney mortars in the power industry.

Continuing advancements have also led to monolithic refractories and organic coatings and linings **designed to withstand extreme environments typically found in the power industry.**



**STACK
LINERS**

A Wide Range of Applications

FLOORS

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

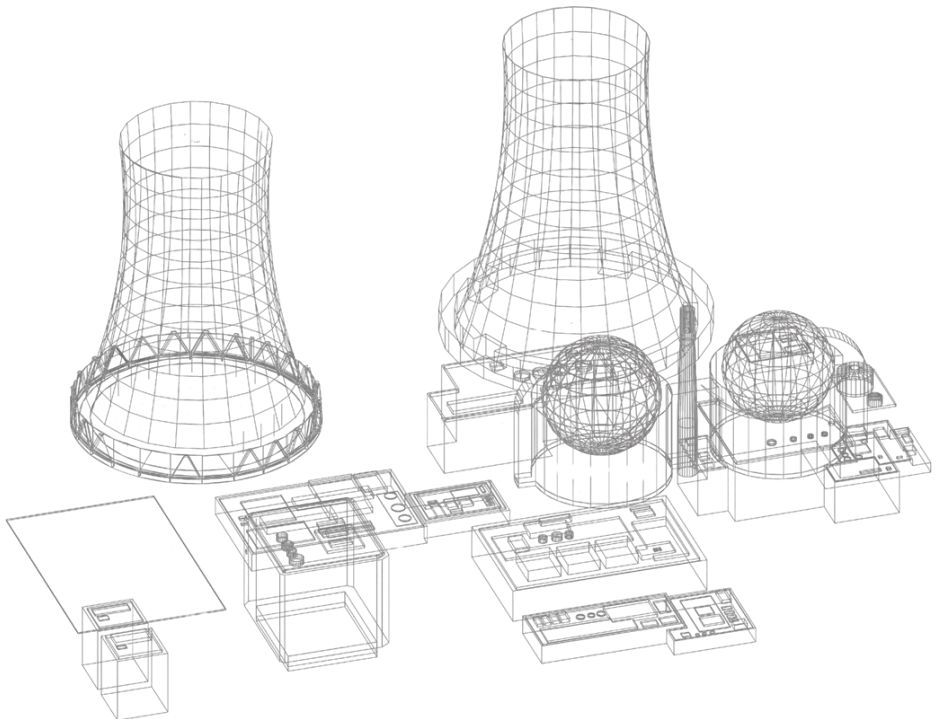
DUCTS

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

**COOLING
TOWERS**

**WATER
TREATMENT**

**SECONDARY
CONTAINMENT**





STACK LINERS

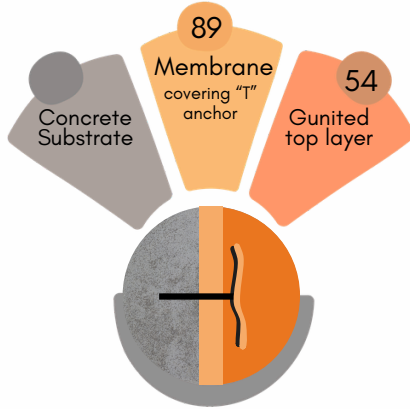
Chimneys and duct work are exposed to high exit gas temperatures may need gunite refractory or brick-and-mortar systems. Conditions like high heat, abrasion, by-pass flow, and corrosive gases can be addressed using inorganic potassium silicate or calcium aluminate materials. A high-temperature organic membrane behind the refractory has proven effective in extending liner life. Sauereisen provides materials for new liners and to maintain and repair aging liners.

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 75 years. The Sauereisen **Dual Lining Systems** are commonly referred to as "89/54", "89/54LW" or "89/35" among industry professionals.

89 High Temperature Membrane

Asphaltic mastic applied over anchors and substrate and under refractories. Maintains excellent elasticity and adhesion within a temperature range between -60°F to 300°F. Protects against acid condensation while its elastomeric properties accommodate the varying rates of thermal expansion between refractory and substrate(s).

Low permeability Acid and alkali resistant



54GUN Acidproof Gunite

Potassium silicate resistant to full concentrations of most acids between a pH range of 0.0 to 7.0 and withstands temperatures to 1250°F (677°C).

Sulfuric acid resistant High-temp resistant

54LW Acidproof Concrete

The original acid-resistant gunite material made for applications that require a lower K factor, lightweight materials, and/or higher temperature resistance, withstanding continuous temperatures to 1600°F (871°C).

Water and vapor resistant Fast chemical set

35 Chemical-Resistant Castable

Gunitable, hydraulically-setting calcium aluminate for dry gas environments withstanding temperatures to 2100°F (1149°C) while resisting mild acid & alkali chemistries.

pH range of 4.5-12.0 Thermal shock resistant

Brick and Mortar have been used for decades in chimney linings due to their durability and heat-resistant properties.

65 Corrosion-Resisting Mortar

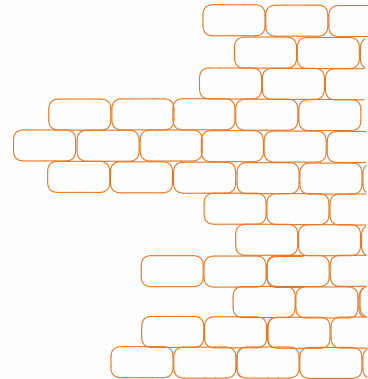
Potassium silicate mortar particularly recommended for installations handling all concentrations of sulfuric acid and strong oxidizing acids such as nitric and chromic. Resistant to acids through 1250°F (677°C). The 65 mortar is chemically activated and does not require an acid wash prior to flue gas service.

Rapid set pH range of 0.0-7.0

33M Acid-Alk Mortar

Chemical setting, inorganic, modified silicate-based cement. Resists most solvents, oils and acids (except fluorides) between a pH range of 0.0 to 9.0.

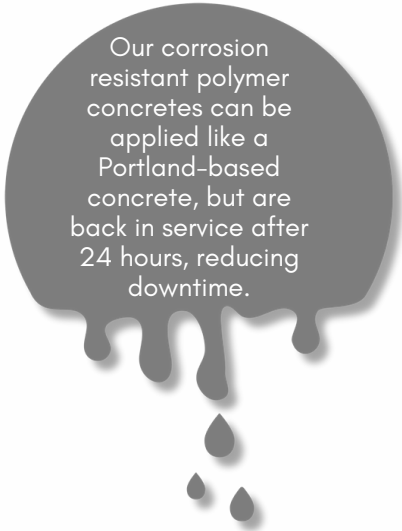
Max service temp of 1750°F Weather-resistant



An aerial photograph of an industrial facility, likely a power plant or refinery. A prominent white cylindrical stack rises vertically from the center. Surrounding it are several large blue industrial buildings with complex scaffolding and piping. In the foreground, there are two large grey cylindrical tanks on a raised platform. The background shows a flat landscape with some trees and a small body of water under a clear blue sky.

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 feed 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 down-time with return to service in 48 hours or less.



35SG Chemical-Resistant Castable Structural Grade

Hydraulic-setting, calcium aluminate cement recommended for protection from high-temperatures, thermal shock, abrasion and chemical attack by mild acids or alkalis.

Hydraulic set

Thermal shock resistant

Max service temp 2100°F

54SG Acidproof Concrete Structural Grade

Potassium silicate castable polymer concrete with outstanding performance as a chemical-resistant liner for the most severe acidic environments.

Max service temp 1400°F | pH range of 0.0-7.0

Where acid & alkali exposure is dominant, temperatures are lower, and increased compressive, tensile and flexural properties are required, Sauereisen resin-based polymer concretes are the answer:

265 Epoxy NovolaK Polymer Concrete

Resistant to solvents, oils, concentrated acid salts and alkalis within a pH range of 0.0 to 14.0, with a maximum service temperature of 250°F. Engineered for more aggressive chemical resistance than standard epoxies.

Fast chemical set

Low porosity

High Strength

465 NovolaK Vinyl Ester Polymer Concrete

Resistant to solvents, oils, acids and acid salts within a pH range of 0.0 to 14.0 with a maximum service temperature of 250°F. Engineered for a wider range of chemical resistance than standard epoxies.

A photograph of a large industrial facility featuring a series of massive, curved, metallic ducts. The ducts are supported by a complex steel framework. The scene is set against a clear blue sky, and a white cylindrical structure is visible in the background on the left. The word "DUCTS" is overlaid in large white letters in the center of the image.

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 fiber-reinforced vinyl ester and Novolak epoxy lining systems. The incorporation of fiber into the resin system increases the tensile and flexural strength of the resin system and the resistance to vapor and liquid permeation. The fiber-reinforced linings offer a faster and more economical alternative to mat-reinforced lay up systems.

Fibrecrete 218 is a fiber-reinforced Novolak epoxy lining that resists acids and alkalis up to 180 F. An optional topcoat of Novolak Conoglaze No. 228 can be incorporated to provide additional protection and a smooth surface texture.

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

218 FibreCrete Series

Spray applied fiber-reinforced epoxy Nonolak lining used for the protection of concrete and steel from chemical and physical abuse through 180°F (82°C).

Inter-locking fiber matrix

USDA Approved

440 Vinyl Ester FibreLine

Fiber-reinforced vinyl ester lining specifically formulated for applications on concrete and steel. Resists most acids and alkalis through 250°F (121°C). An optional topcoat of VEGlaze 472 can be incorporated to provide additional protection and smoother surface texture.

High-temp resistant

Fast chemical set



A photograph of a cooling tower system. The image shows a series of large, circular, white fans mounted on a metal structure. Below the fans, there are orange pipes and a metal framework. The background is a bright, hazy sky. The text "COOLING TOWERS" is overlaid in the center in a large, white, sans-serif font.

COOLING TOWERS

Cooling tower water contains salts, dissolved gases, metal ions, and microorganisms that can lead to fouling, scale formation, corrosion, and biological growth. Open recirculation systems allow microorganisms to enter and multiply, especially as evaporation, leaks, and water use increase nutrient levels. Significant microbial growth forms biofilms, which are —slime layers that adhere to surfaces, resist disinfectants, accelerate corrosion, and reduce heat-transfer efficiency. Sauereisen provides solutions to address these issues and extend the life of cooling tower assets.

Stop leaking of liquids through cracks and discontinuities by repairing structure with:

Repair concrete substrate with:

F180 InstaPlug
Rapid setting, hydraulic water plug cement for sealing active water leaks, filling small voids and special anchoring applications.

Bonds to damp surfaces

No odor

F120 RestoKrete® Underlayment
Fast-curing, high early strength, Portland and calcium-aluminate based resurfacing material. Available in trowelable, castable, gunite, and fast-set versions. Excellent freeze- thaw durability.

No re-coat window

Topcoat in 5-8 hours

F370 Hydroactive Polyurethane Grout
Expanding hydrophobic chemical grout for cracks and voids.

Bonds to wet surfaces

20x expansion

F121 RestoKrete® SubstrateResurfacer
High strength, rapid-set, economical substrate repair material designed for deterioration greater than small voids or irregularities in concrete or brick. Can be sprayed (wet shotcrete) or trowel applied.

No re-coat window

Rapid application

F190 H2OPruf
Crystalline water proofing coating for use on the positive or negative side of concrete or masonry structures to prevent water seepage. Withstand up to 30psi of hydrostatic pressure.

A high-angle photograph of a water treatment plant. The foreground and middle ground are dominated by several large, white, cylindrical circular tanks. Each tank is surrounded by a network of red-painted pipes and metal walkways. In the background, a large body of blue water stretches to the horizon, with a small blue ship visible. In the far distance, a city skyline is visible under a clear blue sky. The text 'WATER TREATMENT' is overlaid in large, white, bold, sans-serif capital letters across the center of the image. The tanks are labeled with 'T-8' and 'T-4'.

WATER TREATMENT

Wastewater from the FGD process is collected and purified before being reinduced into the environment. The collection tanks, trenches, and clarifiers that separate solids and other treatment structures and areas require protection.

Most applications are well-suited for fiber-reinforced high performance epoxy lining systems. Neutralization basins may require a furan mortar and brick system or an organic, polymer concrete for rehabilitation.

SewerGard® 210SN, 210TN, and 210GN are specially formulated Novolak epoxy 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.

210 SewerGard Industrial Series

Polymer linings formulated for municipal and industrial wastewater applications.

H₂S and MIC resistant

Zero VOCs

SEWERGARD[®]
ULTIMATE CORROSION PROTECTION

210





SECONDARY CONTAINMENT

Sauereisen offers epoxy, epoxy Novolak, vinyl ester, and urethane coatings and linings, as well as potassium silicate products, that will meet the demands of your concrete secondary containment needs.

These materials can be applied by plural component spray, airless spray or brush and roller, depending upon product choice, available equipment and the size of the area. Sauereisen also offers polymer concretes and brick mortar systems for specialty applications, with optional membranes.

Product options include:

- A wide range of epoxy coatings, linings, and polymer concretes, including Novolaks
- Vinyl ester coatings, linings, and polymer concretes
- Flexible aromatic and UV stable urethanes
- Potassium silicate refractories, liners and polymer concretes
- Acid brick mortars and membranes

Gunite Your Acid Proof Jobs

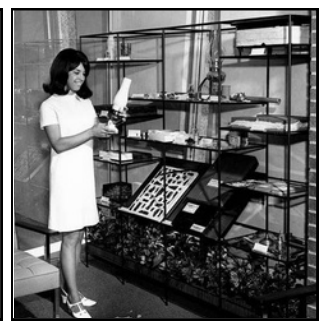
SAUERISEN No. 54
Patent Applied For

for **TANKS
WALLS
SEWERS
FLOORS
CHIMNEYS**

Sauereisen Pour-Lay Cement No. 54, the ACID PROOF CONCRETE, is ready to go to work for you too. Quick and easy to use. Can be gunited, poured into forms, or applied as a topping. Eliminates the need for expensive brick or tile. Provides resistance to all corrosive acids (except hydrofluoric) and temperatures as high as 2000°F.

Ask for Data Sheets

SAUERISEN CEMENTS CO.
PITTSBURGH, PA. 15215



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