

STEULER

Surface Protection | Linings

PROTECT WHAT MATTERS

Sulphuric Acid

Your technology partner for
robust and durable systems.

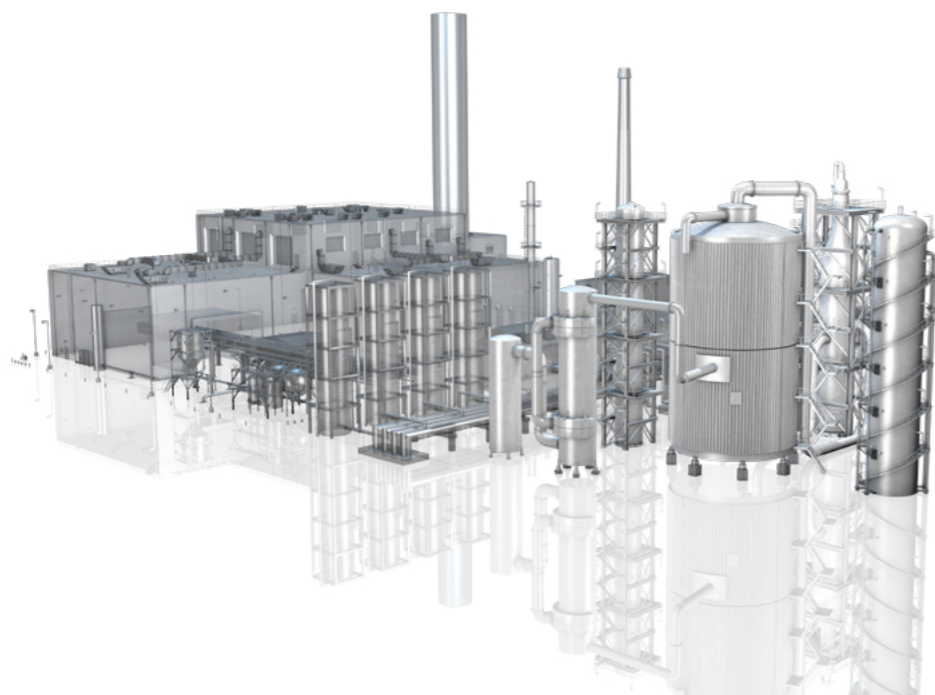
Corrosion protection for sulfuric acid plants



To protect your processes against corrosion you need customized, reliable solutions. And the same applies to protecting basic structural elements. Your objectives are clear: Precise and goal-oriented planning as the basis for smooth project implementation, long-term operational reliability and cost effectiveness.

A partner throughout the industrial plant life cycle

As an experienced engineering partner with over 100 years of expertise, Steuler assists you in every phase of your project: from planning through realization to operation



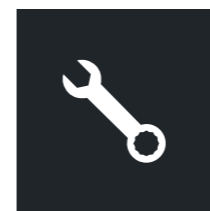
Planning

Your individual requirements are what matters most here. Steuler takes all project-specific factors into consideration and works with you to develop precisely tailored, efficient corrosion protection solutions. Thanks to a wide range of materials from our in-house production operations, your options remain flexible. Having a single contact for all corrosion protection questions minimizes your planning times and risks.



Realization

With our extensive experience and many executed projects, Steuler ensures high-quality execution. International expertise: Trained specialists and a global network ensure the precise installation of corrosion protection measures. On request, we will also provide for the turnkey implementation of your project.



Operation

The quality of our corrosion protection guarantees you the ideal conditions for uninterrupted operation. Should unforeseen incidents or outages ever occur, Steuler will provide you with rapid support worldwide. Preventive measures: Concepts for organizing inspection, maintenance and predictive planning offer you longterm reliability – including during scheduled shutdowns.

Our solutions for critical plant areas



Protection of the basic structure

Floors, trenches, pits

Floors, trenches and pits require robust chemical protection to withstand attack that may occur during spillages and or other leakages. As a rule of the thumb, the longer or more frequent leakages occurs the more advanced the protection has to be. Protection systems starts from basic coatings to proper membrane systems covered by acid resistant tiles/bricks laid in fully resisatnt mortar like e.g. our Steuler Acid Cement AE.

Process components

towers/absorbers

The combination of high temperatures and concentrations requires multilayer linings. Our specially developed Steuler S Membrane or tailor-made rubber linings help to maintain the leak-proof seal in the composite system here. These are complemented by equipment elements such as self-supporting dome and cross partition rings from our in-house production operations. Our many years of experience with sulfuric acid towers enables us to carefully adapt every detail of the brick lining to the customer's individual process.

Gas cleaning systems

Quench or venturi aggregates

Changes in temperature and concentration such as those encountered in quench or venturi aggregates require technically complex, thermally insulated linings. Special detailed solutions optimize the gas inlet and minimize weak points.



Your benefits with Steuler

With us you have a partner who implements your requirements in solutions characterized by impressive experience, quality and engineering know-how. Let's work together to find the ideal solution for your sulfuric acid processes. Steuler – reliable, innovative, for your success.

- High operational reliability and plant availability
- Cost-effectiveness
- Minimization of planning times and risks
- Optimal protection in processes and of plant components

Everything from a single source

As an experienced engineering partner with more than **100 years of expertise**, Steuler assists you in every phase of your project:

From planning through implementation to operation.

Optimal material combinations for every process stage

Each process stage imposes specific requirements on lining systems. Decisive factors include resistance to acids, high temperatures and mechanical stresses.

Steuler offers the appropriate solutions – such as acid-resistant and refractory materials to corrosion-resistant plastic systems. In turn, these enable durable, reliable, and cost-effective plant concepts throughout the entire process

Component/ functional unit	Lining system	Products used
Sulfur pits, sulfur melting tanks	Acid-resistant	Acid-resistant bricks and mortars, foam glass, insulation materials (Vermiculite), anchors, prefabricated ceiling elements, ceramic fiber ropes
Sulfur combustion furnaces, sulfuric acid decomposition furnaces	Refractory	Insulation bricks, refractory bricks and mortars, monolithic masses, ceramic papers, ceramic fiber ropes, ceramic fibers, anchors, exterior insulation
Absorption towers, drying towers, strippers	Acid-resistant	Acid-resistant bricks and mortars, acid-resistant sealing membranes e.g. Steuler S Membrane/PTFE sheet, rubber linings, self-supporting dome and cross partition rings
Pump tanks and production tanks	Acid-resistant	Acid-resistant bricks and mortars, acid-resistant sealing membranes e.g. Steuler S Membrane/PTFE film
Converters, heat exchangers	Acid-resistant	Acid-resistant bricks and mortars, ceramic papers, ceramic fiber ropes, ceramic fibers
Gas cleaning, Venturi-Scrubbers and Quench-Towers	Acid-resistant	Acid-resistant bricks, carbon bricks, silicon carbide bricks, graphite bricks, potassium silicate mortars, furan resin mortars, phenolic resin mortars, acid-resistant sealing membranes e.g. rubber linings, fiberglass and flake coatings
Floor Areas, Retention Area, Acid Bunds, Trenches & Sumps	Acid-resistant	Acid-resistant tiles and bricks, carbon bricks, acid-resistant sealing membranes e.g. laminates and rubber linings
Pipes	Plastic	FRP/PTFE
Wet ESP	Plastic	PPs, PVDF, PVC-C

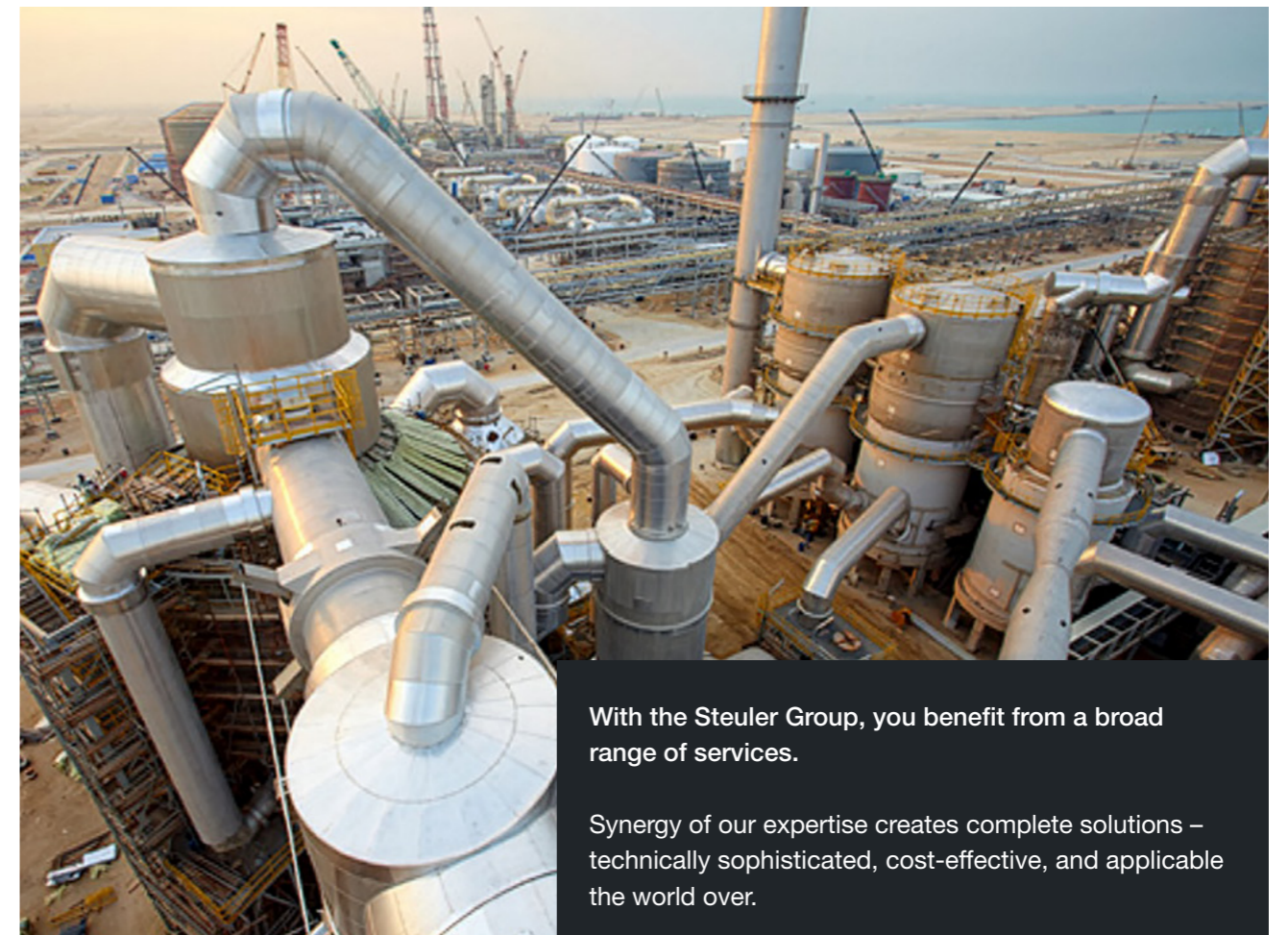
Well engineered solutions for sulfuric acid plants

Demonstrating technical relevance

Sulfuric acid plants place high demands on materials, design and corrosion protection. Aggressive media, high temperatures and complex process conditions require reliable and durable solutions.

Steuler develops the appropriate lining and protection systems for different areas within the plant – from basic structural elements to highly stressed process components.

Refractory technology, plastics technology and corrosion protection systems are combined to create complete solutions for the planning, construction and operation the sulfuric acid plants.



With the Steuler Group, you benefit from a broad range of services.

Synergy of our expertise creates complete solutions – technically sophisticated, cost-effective, and applicable the world over.

Complete solutions for sulfuric acid plants



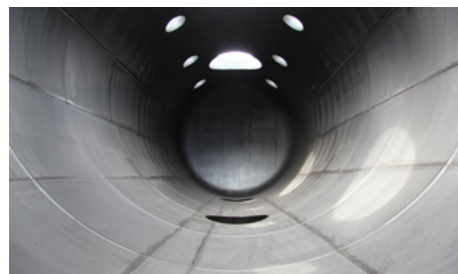
Refractory technology

High-performance linings for sulfur combustion furnaces and sulfuric acid decomposition furnaces, which ensure maximum reliability even at extreme temperatures.



Plastics technology

Especially resistant and durable customized solutions for tanks, piping, wet electrostatic precipitators and other plant components.



Corrosion protection systems

Proven linings, coatings and seals for every type of exposure – from continuous loading to the isolated incident.

Interaction among these specialized fields of expertise gives rise to complete concepts that are perfectly matched to one another. This gives you the optimal solution from a single source:

technically sophisticated, cost-effective and applicable the world over.

Let's talk and work together to find the perfect solution for your requirements.

STEULER

Linings

Together with our subsidiaries and representatives, Steuler offers a worldwide network to our clients that develops and implements comprehensive system solutions.

Alphaplast, S.L.U.
Spain

Ancorite Surface Protection Ltd.
United Kingdom

CIMA S.r.l.
Italy

Ditescor S.A. de C.V.
Mexico

**Shanghai STEULER-KCH
Anticorrosion Engineering Co., Ltd.**
China

STEULER Chile SpA
Chile

**Steuler Korozyon Koruma
Teknolojileri A.Ş.**
Turkey

Steuler Linings Corp.
United States

Steuler Técnica, S.L.U.
Spain

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France

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Morocco

STEULER-KCH Nordic AB
Sweden

STEULER-KCH Polska Sp.z o.o.
Poland

STEULER-KCH Saudi Co. LLC.
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