STEULER KCH

Plastics Engineering I **SYSTEM BEKAPLAST™**

Mechanically anchored thermoplastic lining for extreme conditions

Focus on Progress

System BEKAPLAST™ – Mechanically anchored lining systems to meet the highest requirements

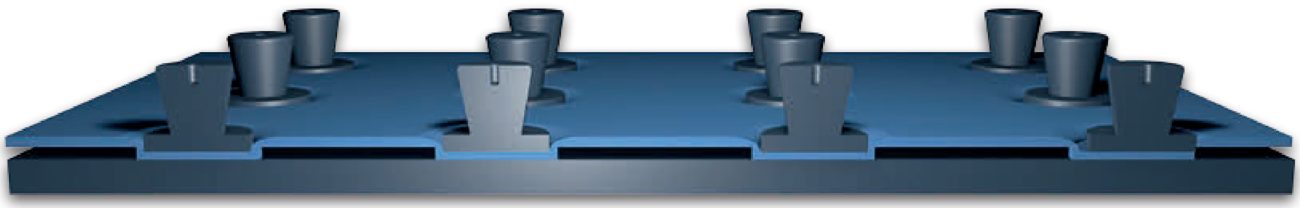
BEKAPLAST™ system

The ideal combination of stability, safety and resistance

The exceptional feature of the BEKAPLAST™ System is the anchor technique at the back of the sheet, with special studs increasing in size in a conical shape. They create an inseparable mechanical bond between the plastic lining and the concrete, and additionally prevent differential expansion.

BEKAPLAST™ can be repaired repeatedly, ensures high impact durability, and is resistant even to biogenic corrosion, high and low temperatures and thermal shock.

BEKAPLAST™ has been successful on the market for over 30 years. From problem solutions in the chemical industry and municipal sewage systems, to installation and repair of tank and shaft linings, through to tank construction – potential BEKAPLAST™ applications are as diverse as today's demands on modern, futureoriented lining technology.



BEKAPLAST™ S

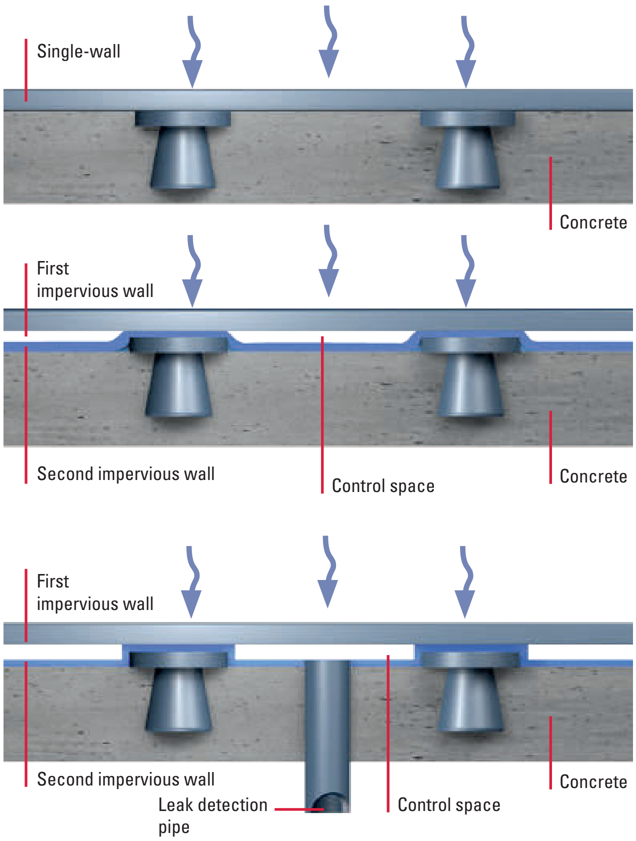
The BEKAPLAST™ standard system is a mechanically anchored single-wall thermoplastic lining.

BEKAPLAST™ DWS

More stringent environmental laws have required the lining of reinforced concrete structures for the storage of water-polluting liquids to be permanently controllable for leakage. The construction of the BEKAPLAST™ DWS System, a thicker primary thermoplastic sheet with a secondary thermoplastic sheet welded behind to form a double sheet, safely complies with legislative requirements.

BEKAPLAST™ LS with Leak Detection

IIn many applications control and repair of underground concrete structures is a requirement, and is addressed by the BEKAPLAST™ LS System. It essentially corresponds to the BEKAPLAST™ DWS double-wall system, but the concretefacing second wall is not welded. The gap between the BEKAPLAST™ walls serves as a control space.

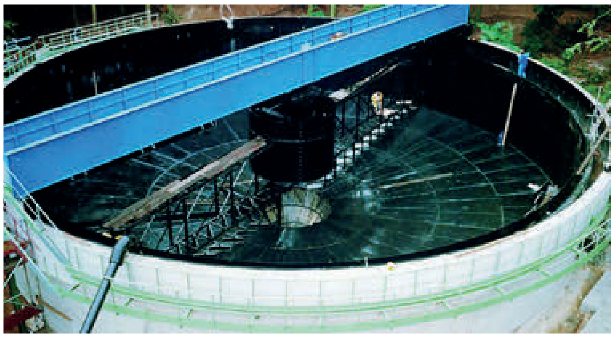


Innovative yet still technically perfected for new construction or renovation

System orientation combined with utmost versatility – the basis for BEKAPLAST™ success. Our references demonstrate the diversity of applications – every project implemented is further proof of the quality of this innovative system solution.

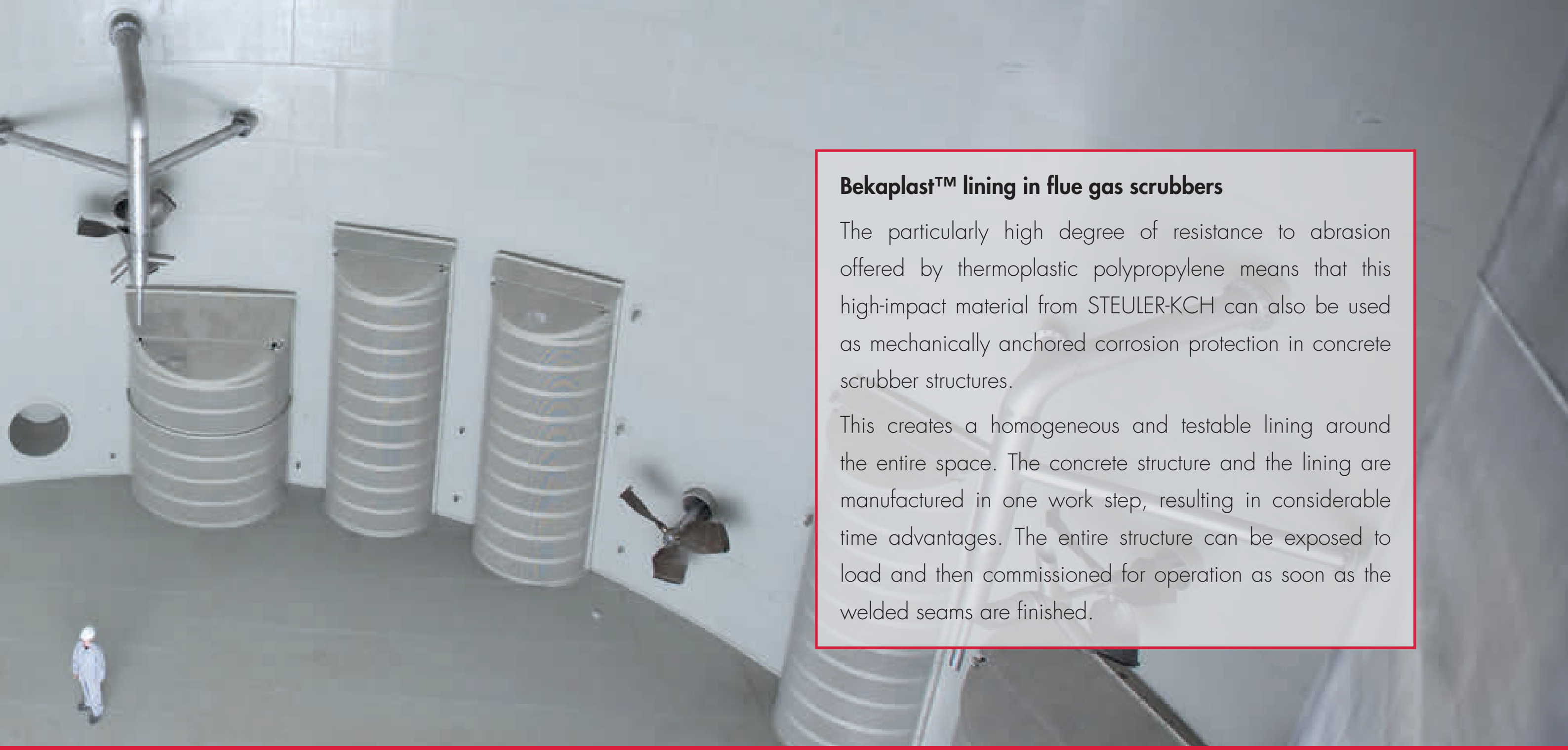
BEKAPLAST™ for storage tanks

Tanks in the chemical industry and municipal sewage installations must meet various requirements, not always precisely defined in advance. Outdoor plants are also subject to weather conditions, such as sun and frost.



BEKAPLAST™ for Basins and Collection Tanks approved by the German Institute for Building Technology

The BEKAPLAST™ HDPE System has been certified for sealing collection tanks and/or basins for the storage of water-polluting liquids in accordance with § 19 h of the Water Resources Law. This system also offers tailor-made solutions for pump sumps, pipe joints, channel constructions etc.



Bekaplast™ lining in flue gas scrubbers

The particularly high degree of resistance to abrasion offered by thermoplastic polypropylene means that this high-impact material from STEULER-KCH can also be used as mechanically anchored corrosion protection in concrete scrubber structures.

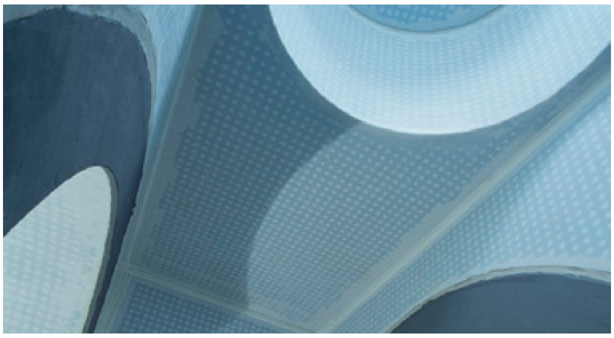
This creates a homogeneous and testable lining around the entire space. The concrete structure and the lining are manufactured in one work step, resulting in considerable time advantages. The entire structure can be exposed to load and then commissioned for operation as soon as the welded seams are finished.

Bekaplast ™ DWS for water tanks

In general, leachate water is classified as a water-polluting liquid. In accordance with the Water Resources Law, appropriate sealing systems must be used in the construction of underground concrete tanks.

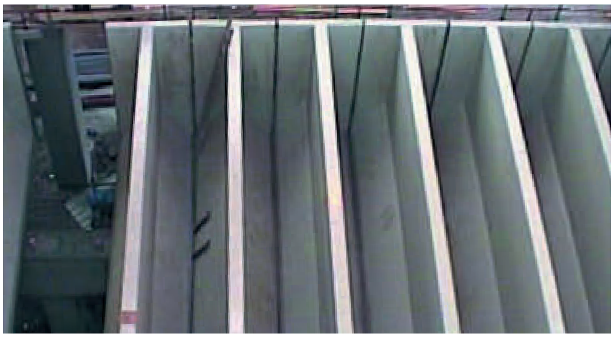
BEKAPLAST™ for shaft construction

Shaft constructions, e.g. inspection chambers at disposal sites or in mixed water collecting sections, are often subject to conditions that cannot be defined precisely in advance, such as biogenic corrosion and aggressive fumes. System-specific steps in compliance with DIN requirements complement the lining technology.



BEKAPLAST™ for electrolysis cells

Electrolytic cells for the recovery of zinc, copper or cobalt are exposed to specific chemical, thermal and electrical conditions. In the case of normal sheeting, high temperatures and damage caused by anodes and cathodes striking and falling often cause plant repair and downtime. The mechanically highly durable BEKAPLAST™ thermoplastic lining guarantees a high level of plant operability.



Tried and trusted lining technology for concrete structures

BEKAPLAST™ HDPE

This polyethylene material is resistant to a wide range of acid and alkaline solutions. BEKAPLAST™ HDPE can be supplied as an electrically conductible material and is environmentally safe.

BEKAPLAST™ PP

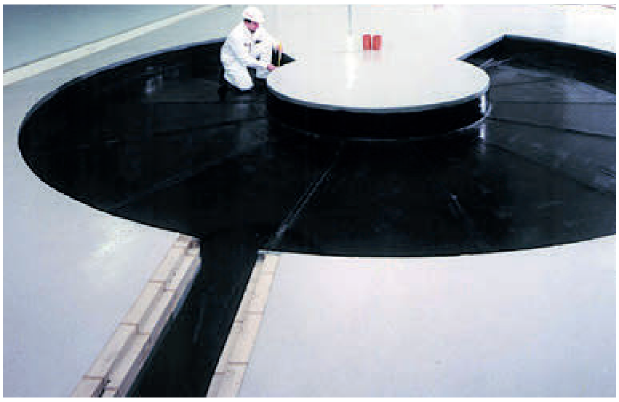
This material is a highly heat-stabilised polypropylene in accordance with DIN 16971. One of the remarkable features of this material is its resistance to aqueous saline solutions, alkalis and acids. BEKAPLAST™ PP is temperature-resistant up to a permanent temperature of nearly 90° C.

BEKAPLAST™ PVDF

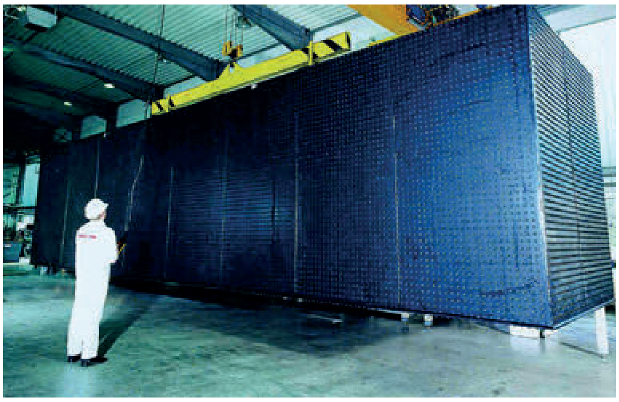
The highly resistant, permeation barrier polyvinylidene fluoride is used particularly in cases involving chlorinated hydrocarbon chemical stress.

BEKAPLAST™ PVC

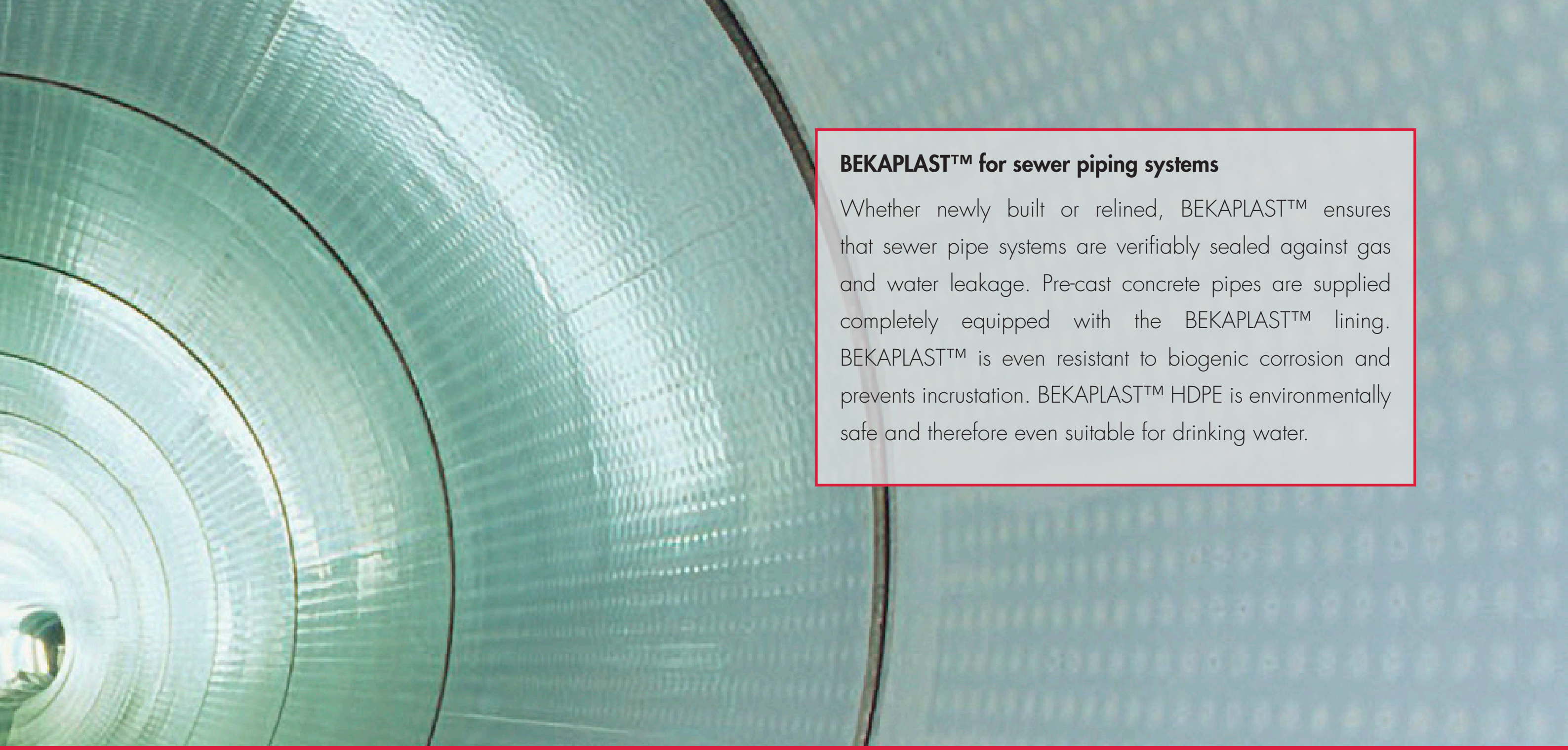
The high impact durable material also offers extreme chemical resistance and a high level of stiffness.



Above picture: BEKAPLAST ™ collection tank and Bekaplast™ gutter with edge lining in a manufacturing facility.



Above picture: A hydrochloric acid pickling plant is renovated using a pre-fabricated Bekaplast™ immersion tank accommodating contents of over 100 m^3 thereby saving lots of time.



BEKAPLAST™ for sewer piping systems

Whether newly built or relined, BEKAPLAST™ ensures that sewer pipe systems are verifiably sealed against gas and water leakage. Pre-cast concrete pipes are supplied completely equipped with the BEKAPLAST™ lining. BEKAPLAST™ is even resistant to biogenic corrosion and prevents incrustation. BEKAPLAST™ HDPE is environmentally safe and therefore even suitable for drinking water.

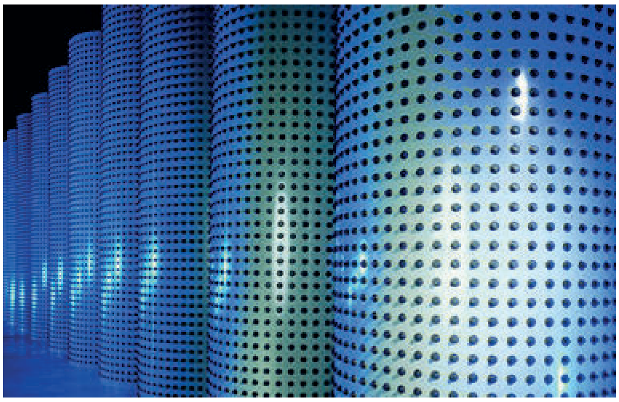
The specific BEKAPLAST™ material used ensures special advantages for any given application:

- hardly flammable
- high impact durability
- electrically conductive
- UV-stabilised
- safe for foot traffic

A great variety of material quality standards are available. Please do not hesitate to contact us for details.

BEKAPLAST™ for new construction or re-lining of sewage systems – a good example for the versatility of the design. If sewer pipes are intended for open or propulsion installation, the prefabricated BEKAPLAST™ pipes can be cast during the reinforced concrete pipe manufacturing phase.

In case of re-lining projects, BEKAPLAST™ pipes or BEKAPLAST™ sheets are placed in the sewer to be re-lined and attached to a shuttering inside. The gap between concrete pipe and inner lining is then filled with a fluid, fast-setting special mortar. The radial joints are sealed by welding. BEKAPLAST™ provides a highly resistant and, due to the anti-adhesive surface, very smooth inner lining.



Above picture: Relining of sewer pipes using ready-made Bekaplast pipes.

Alphaplast S.A.
Spain

CIMA S.r.l.
Italy

Ditescor S.A. de C.V.
Mexico

Shanghai STEULER-KCH Anticorrosion Engineering Co. Ltd.
China

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Australia

STEULER-KCH Austria GmbH
Austria

STEULER-KCH France S.A.R.L.
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Spain

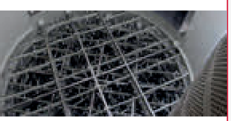
STEULER-KCH
Branch Saudi Arabia

Tecresa Tecnicas de Refractorios S.A.
Spain

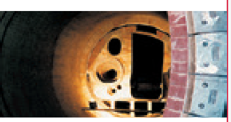
STEULER KCH

Together with its international subsidiaries and representatives, STEULER-KCH offers its customers a worldwide network which develops and implements comprehensive system solutions.

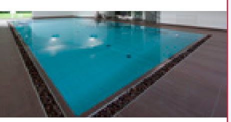
SURFACE PROTECTION
Lining and flooring systems
Cements, jointing materials, brick and rubber linings



PLASTICS ENGINEERING
Equipment, piping and tanks made of duroplastics and thermoplastics
Thermoplastic lining systems



REFRACTORY SYSTEMS
High temperature refractory linings



POOL CONSTRUCTION
STEULER-Q^7-System

Siershahn site

Höhr-Grenzhausen site

STEULER-KCH GmbH

Berggarten 1
56427 Siershahn I GERMANY

Phone.: +49 2623 600-0
Fax: +49 2623 600-513

E-Mail: info@steuler-kch.com

www.steuler-kch.com

Focus on Progress

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