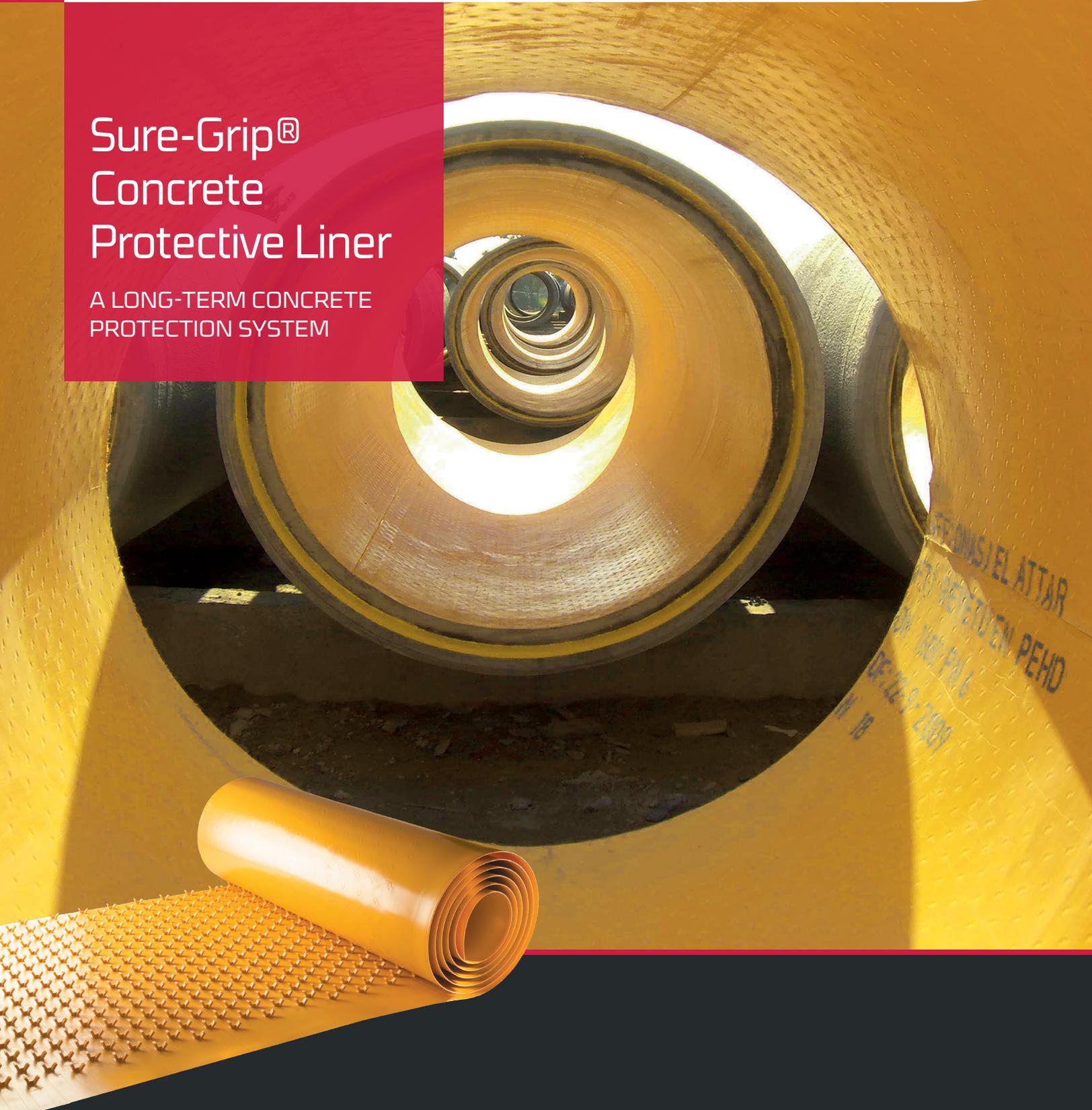


Sure-Grip® Concrete Protective Liner

A LONG-TERM CONCRETE
PROTECTION SYSTEM





The Plastics Experts.

Our concrete protection product group offers a complete, top-quality range of concrete protective liners that have a special focus on protecting concrete structures from aggressive and abrasive media. These liners are used wherever there are increased requirements towards a concrete structure and are particularly popular when corrosive fluids or gases need to be transported or stored.

The AGRU success story has been unfolding for seven decades. Founded in 1948 by Alois Gruber, who set the company on the course for plastic manufacturing, AGRU has become one of the world's most important single-source suppliers for piping systems, semi-finished products, concrete protection liners, and lining systems made from engineered plastics. We use only top-grade thermoplastic polymers as our raw materials. When it comes to application-technical consulting, we are your best partner in the field.



Quality

At AGRU, customer satisfaction comes first. Technical consultations, training courses, welding instruction and expert supervision on site are essential parts. The AGRU quality assurance system is compliant with ISO 9001:2015 and its environmental management system fulfills ISO 14001:2015. This in turn ensures that the products comply with international norms, as monitored and evaluated on an ongoing basis by independent testing agencies standards.

The start-to-finish attention to quality ensures that the products meet and beat the strictest technical specifications, providing safe operation within gas, water and wastewater infrastructures.

AGRU Sure-Grip® System

System Overview and Benefits

Sure-Grip® concrete protective liners made of HDPE, HDPE-el, PP, PVDF and ECTFE are produced with state-of-the-art manufacturing technology. This system has been successfully applied worldwide for more than 25 years and serves as a long-term alternative to spray-applied concrete protection products.

Sure-Grip prevents concrete corrosion and degradation and can substantially extend the lifetime of a structure. In addition, by preventing exfiltration and infiltration, concrete protective liners provide direct protection for the environment and increased operating efficiencies. Furthermore, the unique anchoring system also enables construction in areas of significant backpressure. Unlike spray-applied liners, which have to be reapplied regularly due to cracking or delamination, Sure-Grip concrete protective liners are long-lasting. Sure-Grip is designed to avoid the residuals cost often associated with concrete spray-on liners, which requires tank emptying and cleaning every few years for reapplication.

Concrete protective liners combine the advantages of thermoplastics (flexible, ductile, corrosion resistant) with those of concrete (high strength, high stiffness). Thus, the concrete is protected effectively and the durability and life expectancy is increased.

Innovative Design for Leak-Proof Constructions

The unique V-shaped anchor studs, which are integrally formed onto the liner during the extrusion process, allow a secure mechanical anchoring of the concrete protective liner to the concrete, guaranteeing optimum anchoring to the concrete. Depending on the specific project requirements, a variety of anchor designs, resins, and liner thicknesses and colors are available.

Concrete protective liners are joined by welding, which provides permanent and reliable joints. Different welding technologies, depending on the project requirements, are available for a secure and leak-proof joint:

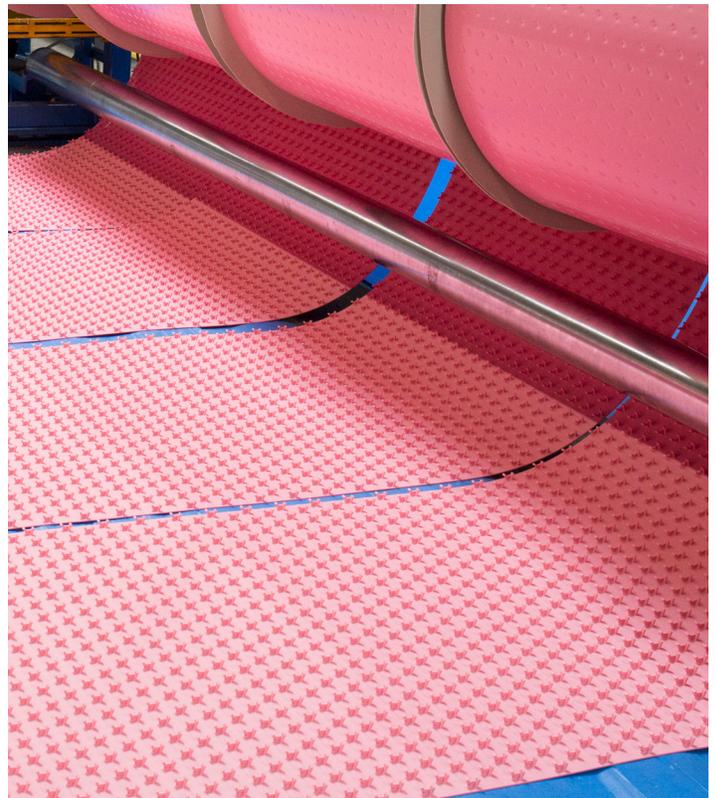
- Butt welding
- Extrusion welding
- Hot wedge welding
- Hot gas welding





Sure-Grip® Summary

- Applicable for a wide variety of concrete structures
- Secure mechanical anchoring to the concrete structure
- High elasticity to bridge cracks in the concrete
- High impact resistance
- Excellent shear resistance
- Suitable for aggressive media (corrosion resistant)
- Applicable within a wide temperature range
- Long life expectancy
- Low maintenance and easily cleanable
- Easy and safe installation
- Available in UV resistant materials.

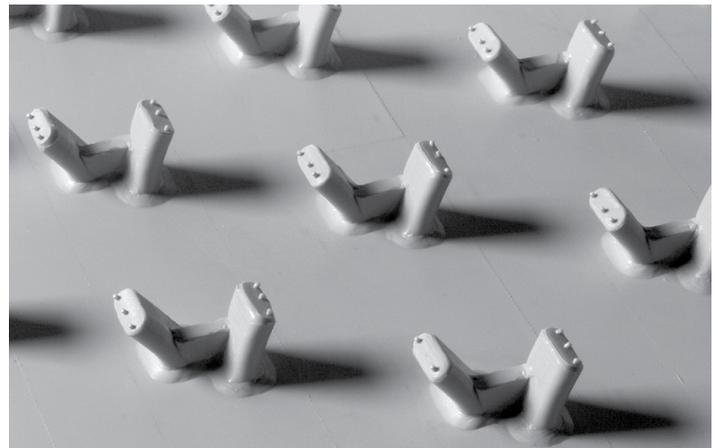


AGRU Concrete Protective Liners, Specifications, and Other Components

AGRU America offers a range of products for the protection of concrete structures, with various configurations to support the exact needs of each project application. For assistance in choosing the AGRU concrete protective liner configuration that best aligns with your project, reach out to an AGRU sales representative at 800-373-2478 or visit us online at <https://agruamerica.com/contact>.

Sure-Grip®

Sure-Grip is a well-established concrete protective liner with a stud height of 13 mm and is suited for new constructions, tank rehabilitation, and precast elements such as concrete pipes and manholes. Sure-Grip comes available in a host of material types including polypropylene, polyethylene, PVDF, and ECTFE. Available colors include grey, black, and yellow. For advanced requirements, AGRU is also able to manufacture Sure-Grip type 571 with a stud height of 19 mm. Special dimensions and product specifications can be made available on request.



AGRU Ultra Grip®

AGRU Ultra Grip possesses an innovative design with an enhanced shape that offers a superior resistance to backpressure, greatly reducing the chance of the liner being pulled out of the concrete. AGRU Ultra Grip is recommended for installations of structures in areas with high groundwater where significant backpressures will be encountered. This advanced liner is the best solution for large-scale construction projects and is available in widths of up to 16.4'.



Sure-Grip® Speciality Liners

AGRU also manufactures Sure-Grip and Ultra-Grip with customizations to meet specific project needs.

Sure-Grip® with Signal Layer

Light-colored signal layer for visual detection of damages; improved installation due to the reflective white layer.

Sure-Grip® with Slip Protection

Slip protection for lining floors.

Sure-Grip® with Polyester Fabric

The fabric enables an adhesive bond to other materials such as PVC and steel.

Sure-Grip® in Customized Styles

Customized colors and sheet dimensions are available upon request.

Accessories

Installation profiles, corners and welding rods are available to facilitate the installation of the Sure-Grip® concrete protection liners.



Technical Specifications

- Thickness supply ranges between 2 mm and 12 mm for Sure-Grip and between 2 mm and 5 mm for AGRU Ultra Grip.
- Sure-Grip and Ultra-Grip are available in PP, PE, PE-el, PVDF, and ECTFE.



Applications

AGRU's concrete protective liners can be configured to meet a wide variety of project requirements.



Lining of Precast Concrete Structures

AGRU's concrete protective liners offer many benefits for the lining of precast concrete structures, including prefabricated concrete elements, concrete pipes and manholes, tank constructions, and oil/water separators.



Lining of Cast in Situ Structures

AGRU's concrete protective liners are easily fabricated to the shape of the construction thanks to the quick and safe mounting to existing formworks by means of end profiles and tear off profiles. After the concrete sets, the concrete protective liner system is extrusion welded to provide a leak-proof solution.

This installation method enables the installation of both the concrete protective liner and the formwork at the same time. In situ structures include underground construction; foundations and bridges; areas where chemical media are used, transported, or stored; and any type of basin.



Structure Relining/Rehabilitation

AGRU's concrete protective liners can be used to reline and rehabilitate many existing concrete structures. This is accomplished through the use of a formwork system and the introduction of grout or concrete into the interstitial space. The concrete protective liners can be prefabricated and preassembled in sections to significantly speed up the on-site installation efforts, reducing production downtime and project costs.

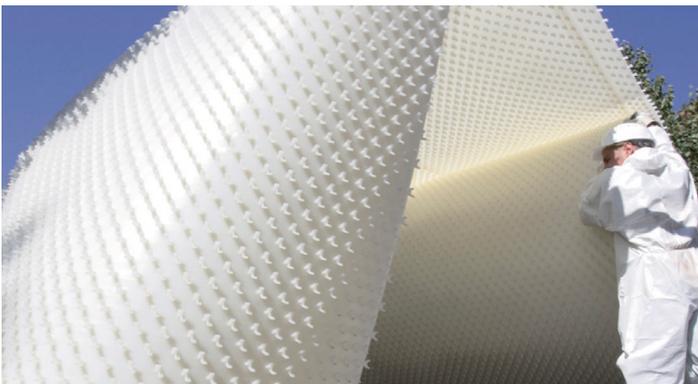
Trenchless Relining of Underground Pipes

AGRU offers system solutions for trenchless relining which enable the rehabilitation of various cross sections and dimensions, independent of the degree of corrosion. Applications include segment relining as outlined below.



Segment Relining

For segment relining, short prefabricated inliner sections are inserted into the pipe or channel. These sections are then fixed to a formwork. The gap between the liner and the old pipe is then back filled with viscous, high-flow grout. After the grout sets, the formwork is removed and the individual segments are welded together.

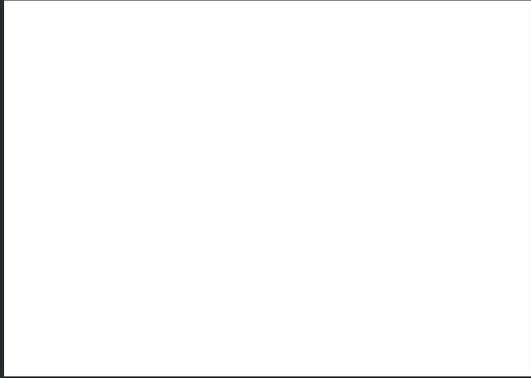


Pipe Relining

For pipe relining projects, the inliner is custom-fabricated to be pulled between manholes. The process starts by sealing the inliner with plugs. Water pressure is introduced to the pipe depending on the required grouting length. Finally, a special grout is injected into the gap between the liner and the old pipe. This application has a successful track record and can be used with section lengths of up to 650'. Rehabilitated diameters range from 12" up to 84".







Subject to errors of typesetting, misprints and modifications.
Illustrations are generic and for reference only.

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