

ANCHOR-LOK™ Lining Systems



atlas

Protecting Concrete from Corrosion

FOR PRIMARY AND SECONDARY CONTAINMENT

THE PROBLEM

The goal of protecting concrete from chemical attack and abrasion with a high-integrity lining system has always been elusive. Acid brick is known for its superior performance in chemical environments, but its installation over complex geometrics is painstaking. Monolithic toppings are subject to cracking and the limitations of their base resin systems. Fiberglass-reinforced linings must be installed in near perfect conditions.

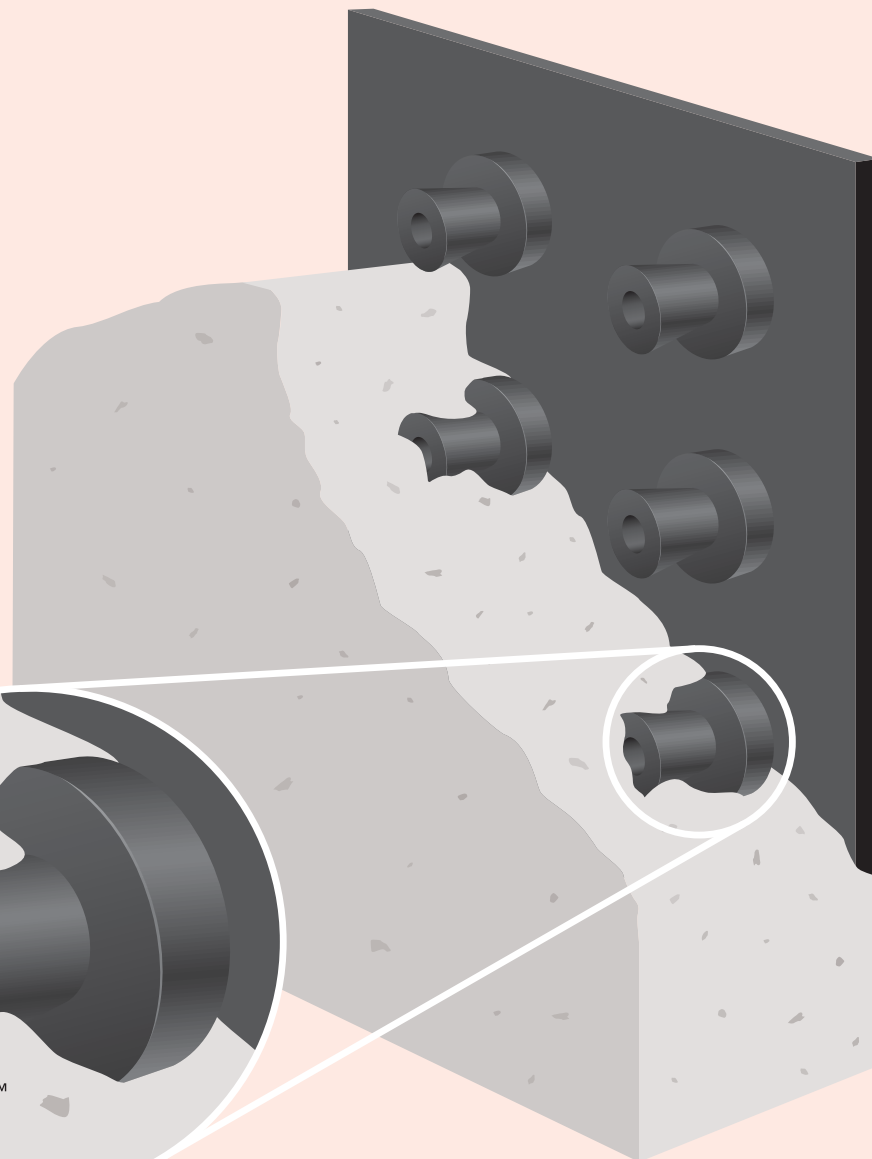
Thermoplastic resins have always shown promise as a solution to this perplexing problem. Thermoplastics display excellent chemical, abrasion and impact resistance while maintaining flexibility. They are also available in a variety of resin systems that can be tailored to specific applications.

Thermoplastics are also weldable, offering high integrity and ease of connection to

pipng systems. But there was a problem affixing thermoplastic sheets to concrete. Gluing the sheets was unsuccessful due to the plastic's tendency to expand and contract with temperature variations. Sheets would buckle off walls or simply lose their bond from the substrate. Plus, gluing thermoplastics to anything proved difficult due to the lack of effective adhesives. Enter Anchor-Lok™.

THE SOLUTION

Thermoplastics can indeed be used to protect concrete. The trick is to imbed the sheets of lining into the concrete instead of trying to adhere them to the concrete. That's the premise of the Anchor-Lok Lining System. By affixing specially designed anchor studs to thermoplastic sheets, Atlas engineers have developed a sheet lining that can be positively fixed to concrete surfaces making it an integral part of the structure. The result ... a lining system with a myriad of benefits.



ANCHOR-LOK™

ANCHOR-LOK™

BENEFITS

Chemical Resistance

Anchor-Lok has outstanding resistance to a broad range of chemicals including acids, alkalis, salts and solvents.

Wide Temperature Range

Various grades of Anchor-Lok can be used in temperatures ranging from -40° F (-40° C) to 275° F (135° C).

Crack Bridging

The elongation properties of thermoplastics allow Anchor-Lok to bridge small cracks in concrete. This benefit virtually eliminates the need for expansion joints.

Verifiable Protection

Welded seams can be spark-tested at any time to assure a leak-free seal. Anchor-Lok installation can be installed with leak detection systems for further assurance.

Hydrostatic Head Resistance

Because Anchor-Lok forms an integral part of the concrete structure, it can withstand over 100 feet of hydrostatic head without delaminating.

Abrasion/Impact Resistance

The high molecular weights of thermoplastics allow Anchor-Lok to resist abrasion and impact from a wide range of materials. For especially tough applications, Anchor-Lok is available in Ultra-High Molecular Weight Polyethylene (UHMWPE).

Tanks



Trenches



Sumps



Floors/Dikes



Prefabricated Units

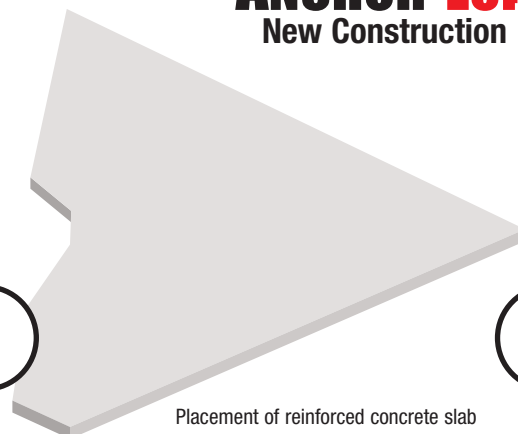


EASY INSTALLATION

For a lining system that offers such a high degree of protection, Anchor-Lok™ is surprisingly easy to install. Sheets of Anchor-Lok are attached to concrete formwork just prior to the concrete pour. After the concrete is in place and the forms have been stripped, any seams in the Anchor-Lok lining are welded, completing the job. There is no lost time waiting for concrete to cure and then be prepped. Anchor-Lok also can be easily mated with other coating and lining systems and pipework.

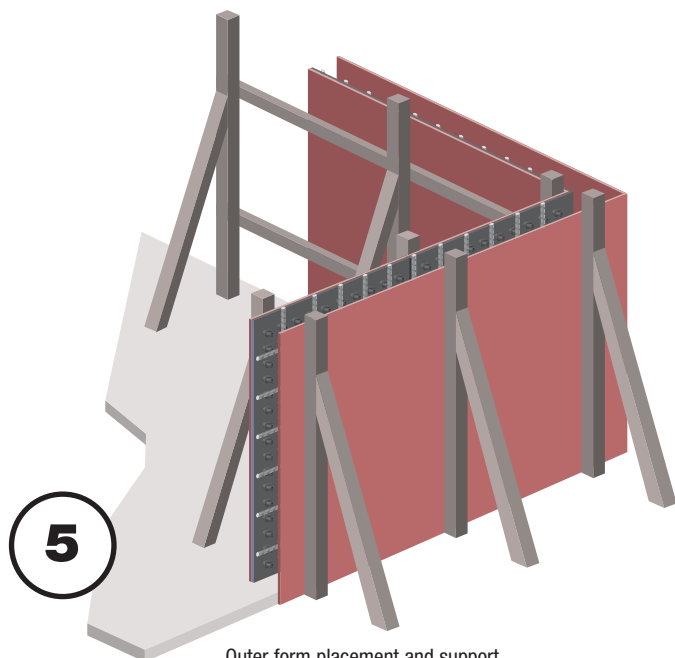
ANCHOR-LOK™ New Construction

1



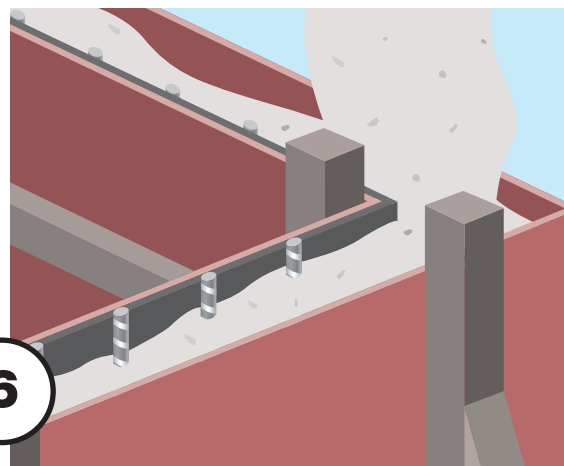
Placement of reinforced concrete slab

2



Outer form placement and support

6



Concrete poured

ANCHOR-LOK™ Retrofit

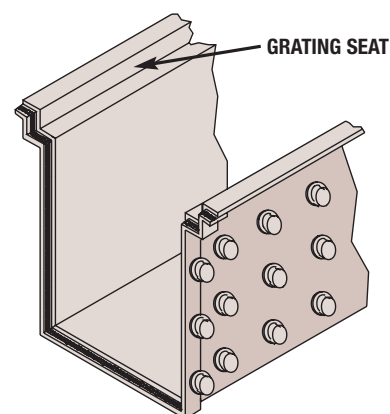


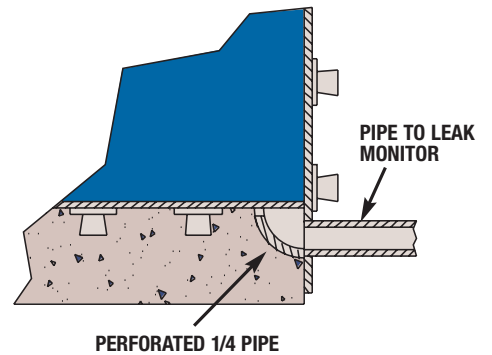
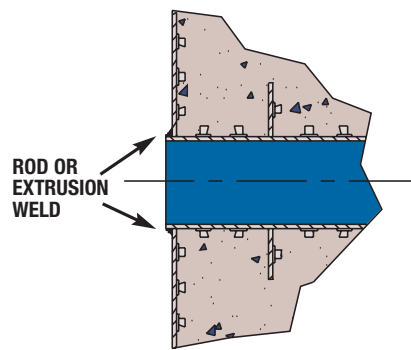
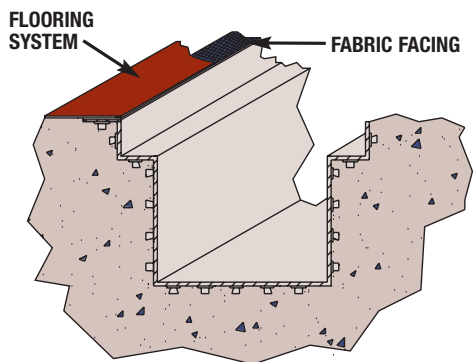
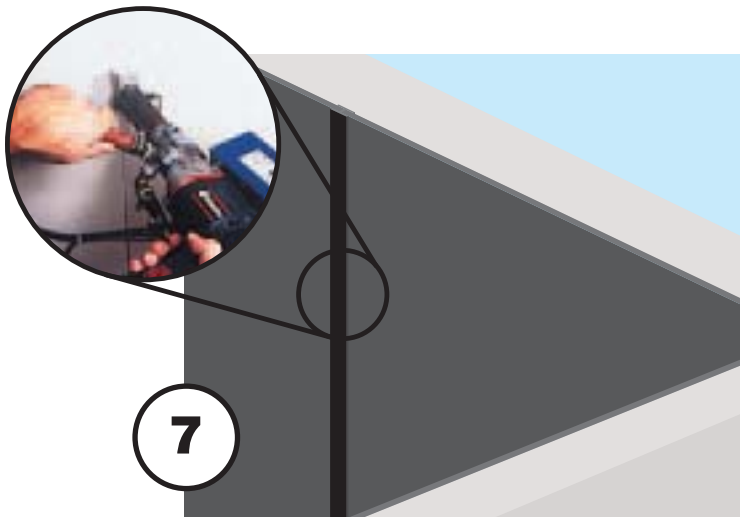
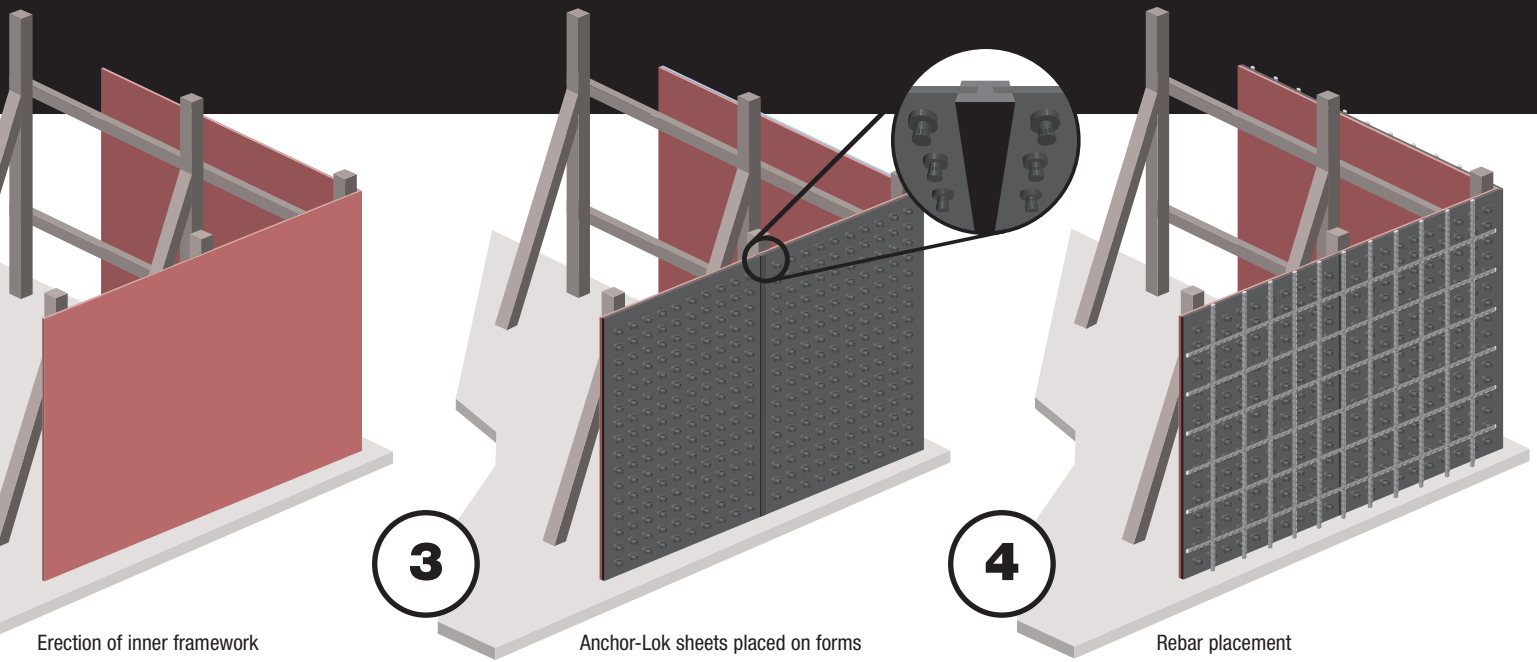
Setting of trench section



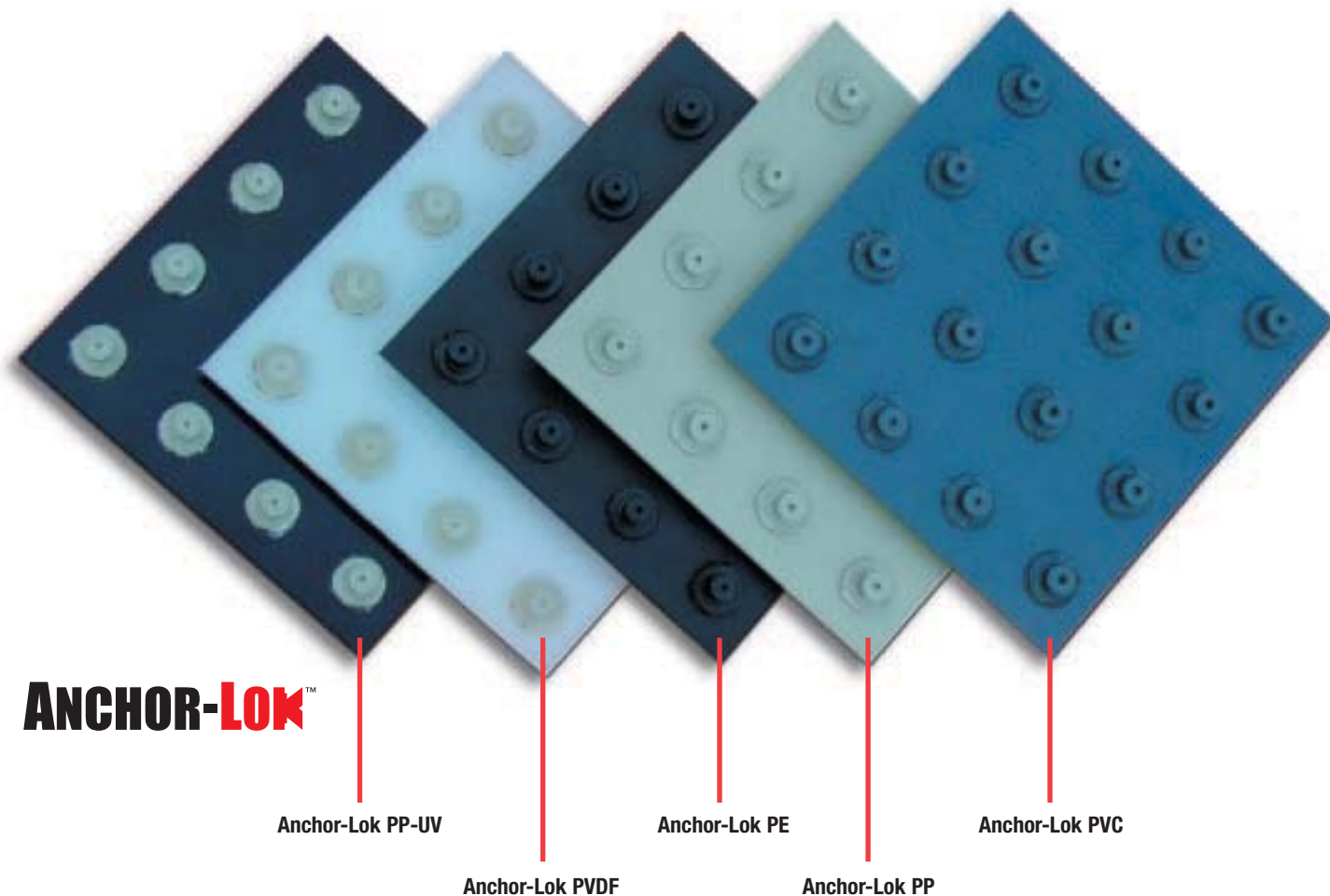
Concrete poured in place

ANCHOR-LOK™ Construction Details





SELECTION GUIDE



Anchor-Lok PE (High-Density Polyethylene)

Broad-spectrum chemical resistance. Continuous service temperature range from -40° F (-40° C) to 176° F (80° C). Meets FDA/USDA mandates for use in food service installations. Base resin is UV stabilized for outdoor use.

Anchor-Lok PP (Polypropylene)

Made of a stress-relieved copolymer that displays good all-around chemical resistance. Has a maximum continuous service temperature of 212° F (100° C). FDA/USDA acceptable for food installations.

Anchor-Lok PP-UV (UV Resistant Polypropylene)

Similar to Anchor-Lok PP but contains additives that allow product to be placed in UV exposure.

Anchor-Lok PVC (High-Impact Polyvinyl Chloride)

Excellent chemical resistance even in solutions containing bleach and oxidizing acids. Has a maximum continuous service temperature of 140° F (60° C). Its high strength and self-extinguishing characteristics make it suitable for use in exhaust systems.

Anchor-Lok PVDF Polyvinylidene Fluoride)

A high-molecular-weight crystalline material that displays outstanding resistance to concentrated acids and solvents. It is suitable for use in continuous temperatures up to 275° F (135° C).

Anchor-Lok UHMWPE (Ultra-High Molecular Weight Polyethylene)

Superior wear resistance allows it to be used in contact with abrasive slurries and powders. FDA/USDA accepted for use in food applications. Available in two grades — weldable (UHMWPE 500) and non-weldable (UHMWPE 1000).

Sheet Dimensions

Standard sheet thicknesses are 1/8" (3mm) and 3/16" (5mm). Sheet thicknesses to 19/32" are available as a special order. Standard sheet size is 4' 11" x 9' 10" (1.5 x 3 m). Anchor-Lok sheet lining materials conform to all applicable ASTM and DIN standards.

PLANT-WIDE PROTECTION AGAINST CORROSION

Since 1892, Atlas has played a pioneering role in the development and manufacture of chemical-resistant construction materials. Improvement is an ongoing process at Atlas. Our research personnel continually search for new ways to enhance our product line. By employing a wide variety of resin technologies, we are able to offer protection for just about any application. Atlas also maintains an extensive network of salespeople and technicians trained to consult on your projects.

If you have corrosion problems, you don't have to look any further than Atlas for a solution.

Atlas sales engineer discusses proper lining for protection of containment pit.



Cell test for permeability and chemical resistance is performed in Atlas laboratory.

From its headquarters in Mertztown, Pa., Atlas supplies industry with a full range of corrosion-resistant materials and services such as mortars, grouts, polymer flooring materials, membranes and linings, process and storage tanks, plastic fabrications, coatings and specialty brick.





Represented by:

For qualified and objective
recommendations to solve
your corrosion problems ...

ask Atlas,



**we have a world
of answers.**

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Atlas Minerals & Chemicals, Inc.

1227 Valley Road • P. O. Box 38,
Mertztown, Pennsylvania 19539-0038
610-682-7171 • 800-523-8269

FAX 610-682-9200 • E-MAIL sales@atlasmin.com

www.atlasmin.com