



The Company With Connections[®]



CORROSION PROTECTION FOR CONCRETE STRUCTURES

DURA PLATE 100 LINER SYSTEM

A-LOK DURA PLATE 100 LINER SYSTEM

The **Duraplate 100 Liner** is a corrosion protection system for concrete structures used in wastewater, stormwater and light industrial applications. It is an extremely durable as well as resilient PVC polymer blend material that is thermoformed into a sectional design. The compression joints allow for secure installation of the sections during the Precast process and eliminate the need for welding.



MATERIAL

The liner and seals are all formed from materials selected for their chemical resistance properties. The main panel sections are formed from a polymer blend, while the vertical panel joints are sealed with an EPDM rubber, and the horizontal structure joints with an approved preformed butyl sealant.

KEY ADVANTAGES

The Dura Plate 100 Liner System was designed on a three point design philosophy.

- 1) The system will provide corrosion protection to the concrete substrate, by shielding it with a protective barrier of inert material embedded to the inside wall of the structure. Each panel features a minimum 1/2" return on each edge to ensure proper sealing.
- 2) The design will minimize the freight cost by using a sectional design that will allow the pieces to be nested within each other while being shipped to the precaster.
- 3) The design will provide easy installation without the need for welding sections together, but still providing complete corrosion protection to the structure.

PERFORMANCE STANDARD

The Dura Plate 100 Liner meets or exceeds all material and test requirements as outlined by the manufacturer.

Chemical Resistant:		
Chemical		Solution
Sulfuric Acid (H2SO4)		20%
Sodium Hydroxide (NaOH)		5%
Ammonium Hydroxide (NH3OH)		5%
Nitric Acid (HNO3)		1%
Ferric Chloride (FeCl3)		1%
Soap		0.10%
Detergent		0.10%

Physical Properties of Liner Panel:		
Test	ASTM Method	Minimum Value
Tensile	D-638	6,100 psi
Elongation	D-638	28.5 %
Tensile Modulus	D-638	325,000 psi
Flexural Strength	D-790	9,200 psi
Flexural Modulus	D-790	340,000 psi
Tensile Impact	D-1822	90 ft-lb/in2
Gardner Drop Dart	D-5240	640 in-lb

PRODUCT SPECIFICATIONS

A protective liner shall be used whenever a precast concrete manhole or structure is used in a sanitary or light industrial sewer system in which the potential for corrosive attack to the concrete substrate exists.

The liner shall be the Dura Plate 100 Liner as manufactured by A-LOK[®] Products, Inc., Tullytown, PA or approved equal.

The design of the liner shall provide a corrosion protective barrier permanently embedded to the inside wall of the structure. The liner system shall assure that:

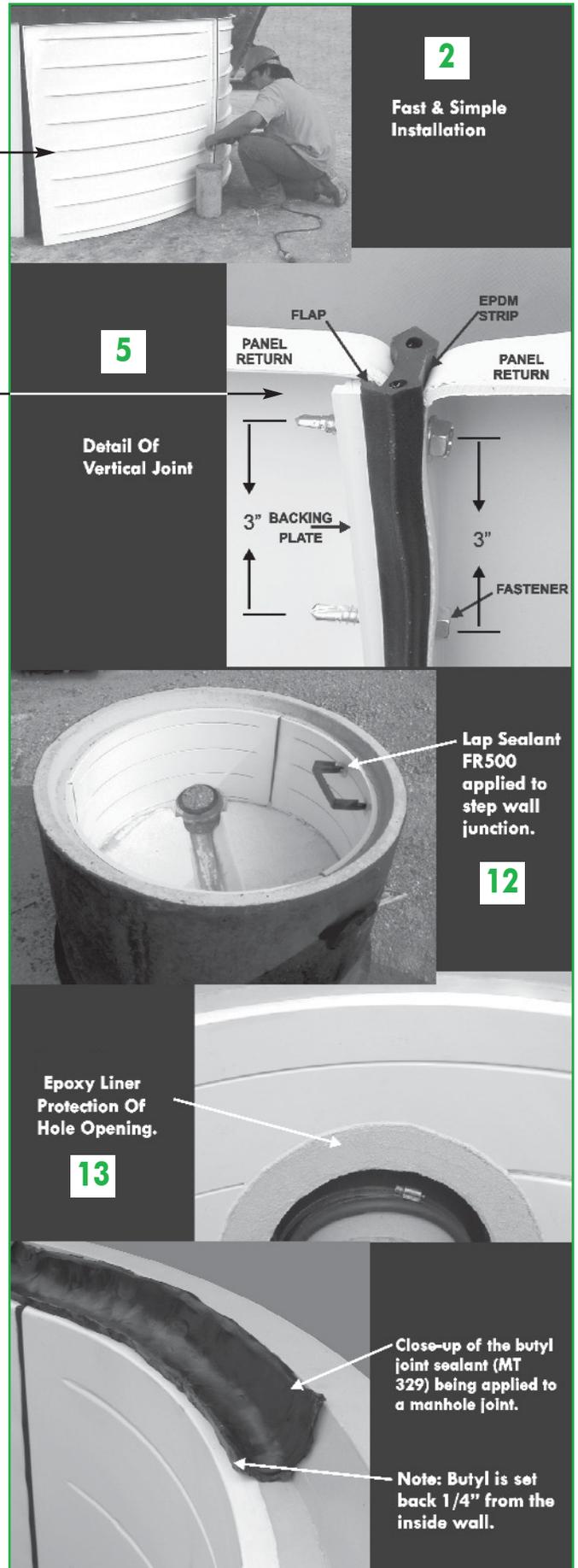
- 1) The liner shall become an integral part of the structure wall by casting the liner with the structure during the manufacturing process. The liner shall also be capable of being cast into a round structure by curving the liner in a manner that allows it to remain permanently attached to the inside structure wall.
- 2) Vertical joints between the liner sections shall be made by the mechanical compression of a EPDM rubber strip between the returns of the two panels with self tapping screws spaced every 3 inches apart.
- 3) Horizontal joints between structure sections shall be sealed with an approved butyl strip compressed between the sections in a manner as recommended by the manufacturer.
- 4) The liner system shall be composed from materials that are corrosion resistant by nature and conforms to the physical and chemical requirements as determined by the manufacturer.
- 5) The liner shall be sized specifically for the type of structure being used and shall be installed in accordance with the recommendations of the manufacturer.

● PRECAST INSTALLATION INSTRUCTIONS

1. Inspect core for sharp or jagged edges that could damage the liner during the shipping process.
2. Place Dura Plate 100 Liner panels level around the core of the form. Form release agent is not necessary.
3. Install the vertical joints by placing the black rubber strip between the panel returns, making sure that the flap of the strip is fitted over one of the returns.
4. Place backing plate on the inside return of panel that the flap fits over. Hold together with spring loaded clamps evenly spaced about 12" apart.
5. Secure the panels together with fasteners placed every 3 inches, making sure that each fastener is tightened to 5 in-lbs.

Note: The fasteners must be installed from the side opposite the flap, straight thru the backing plate, parallel to the liner.

6. Repeat for all seams.
7. **Note: Caulk can be placed between the form core and liner returns to minimize concrete seepage during production.**
7. Install reinforcement into form with any other necessary parts needed for the structure.
8. Pour concrete around the liner evenly to prevent shifting of the liner.
9. Vibrate and compact the concrete in a manner that will protect the liner and produce a dense, homogenous structure.
10. Take precaution to protect the liner from sharp or jagged objects while stripping from the form.
11. Remove concrete bleed on top and bottom returns.
12. Visually inspect the liner after production for any cuts or tears. If repairs are needed, refer to Dura-Plate 100 Liner repair bulletin for proper repair procedures.
13. If steps or ladders are to be installed, drill all holes in liner larger than the diameter of the step. Install steps or ladder then caulk area around step and liner with FR600 caulking material (Lap Sealant).
14. Protect all hole opening surfaces with a minimum 1/8 inch coverage of Dura-Plate Epoxy Mortar which overlaps the liner at least a 1 1/2 inches.



● JOB SITE INSTALLATION INSTRUCTIONS

1. When unloading the structure be careful. Take measures to protect the liner from being damaged by rocks or other debris. Lift carefully, do not drag.
2. Clean and install butyl strips around the joint design making sure that the butyl overlaps both the cement and liner return.
3. Carefully seat each section together making sure enough pressure is applied to seal the joint.
4. After structure is in place, plug all lift pin inserts and holes with suitable non-shrink grout.
5. If any damage to the liner occurs at the job site, use Dura Plate 100 Liner repair bulletin for proper repair procedures.

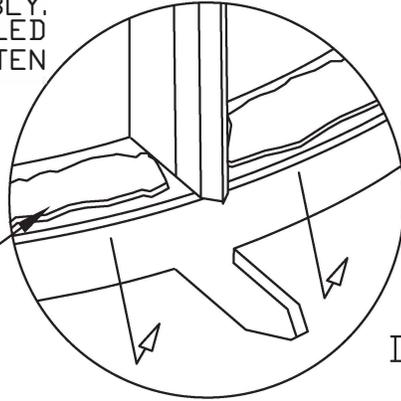
WARRANTY

A-LOK® Products, Inc. warrants that the product described in this bulletin meets or exceeds all material, quality, and workmanship standards suitable for its intended use. A-LOK® Products, Inc. liability is limited to replacement or repair of defective parts excluding cost of removal, installation or unauthorized repairs. A-LOK Products, Inc. will not be responsible for incidental or consequential damages or for products which have been altered or modified. No representative of the company, or any other person, has the authority to waive, alter or add to this guarantee or to assume for the company any obligation with the sale or installation of A-LOK Products, Inc. This warranty is in lieu of all other warranties, expressed or implied.

ANY QUESTIONS REGARDING A•LOK DURA PLATE 100 LINER SYSTEM INSTALLATION, PLEASE CALL 1-800-822-2565

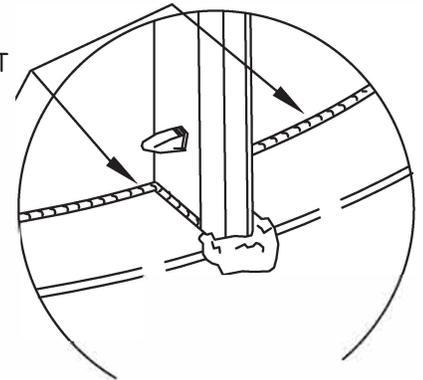
RUBBER JOINT ASSEMBLY,
LEAVE ONE UNASSEMBLED
PUT INTO OPENING THEN FASTEN

WELDON 40 ADHESIVE

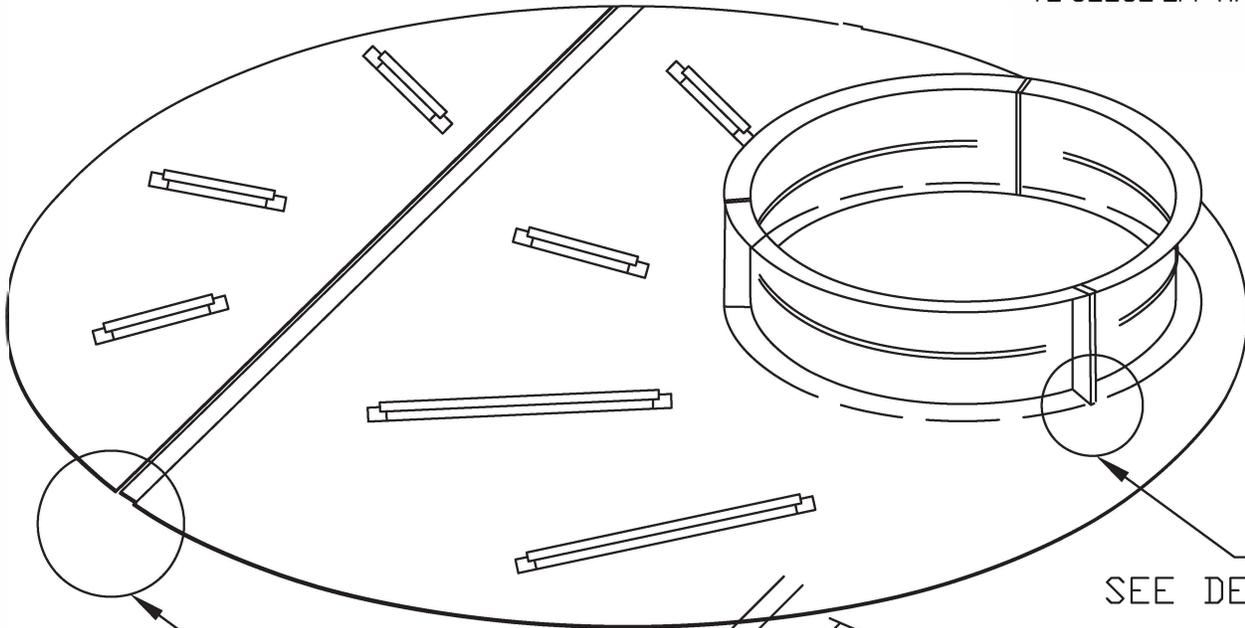


DETAIL B

WELDON 40
SQUEEZE OUT



WELDON 40 ADHESIVE
TO CLOSE OFF ANY VOIDS



SEE DETAIL A

SEE DETAIL B

DURA PLATE

WELDON 40 ADHESIVE

DOVE-TAIL JOINT

DETAIL A

[NOTE: LAY FLAT SECTION OVER ADHESIVE, PLACE 5 LBS. WEIGHT EVERY 12", AND LET CURE FOR 30 MINUTES]

DURA PLATE SLABTOP AND REDUCER ASSEMBLY

