



Danby Panel Lok

UPVC Spiral Wound Lining Systems
For Large Diameter Circular and Non-Circular
Pipeline Rehabilitation – Man Entry

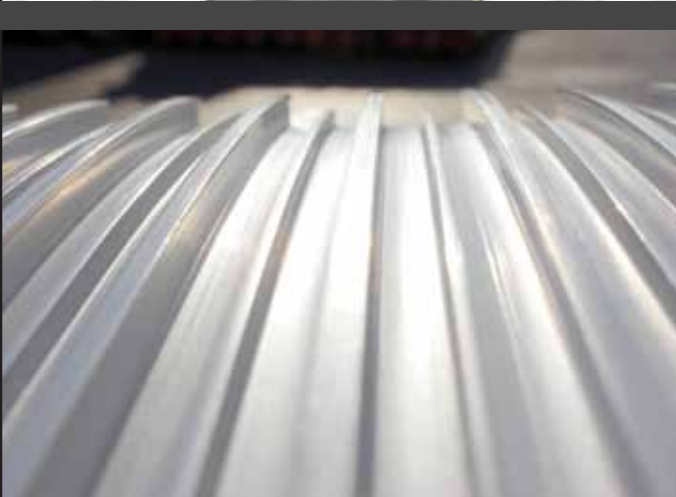
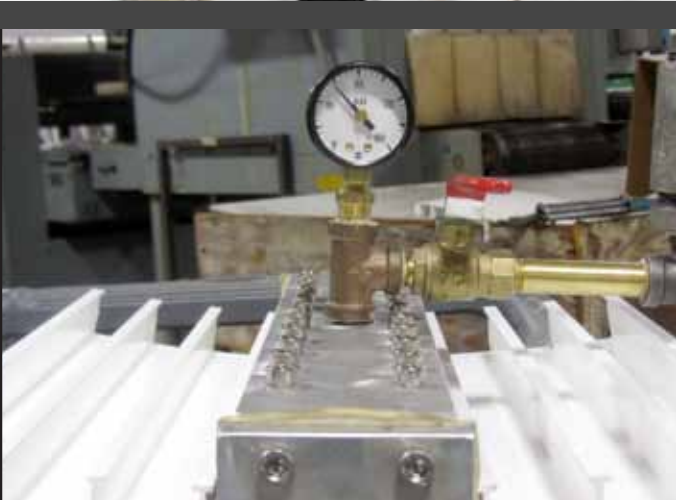


Features:

- Provides Structural Enhancement to the Host Pipe
- Ease of Installation – No Machinery
- Trenchless Technology- No Excavation
- Good Impact and Abrasion Resistance
- Improving Hydraulic Capacity
- Cost-Effective Solution

Applications:

- Sewer Main Pipelines
- Sewer Overflow Pipelines
- Sewer Interceptor Pipelines
- Storm Water Drains
- Seawater Cooling Pipelines
- Pressure Water Mains
- Road and Rail Culverts



Pipeline Rehabilitation

Within the APS, we are able to provide turnkey service to our customers in the utility, power, oil and gas industries. The choice of the most suitable pipeline rehabilitation system depends upon which performance parameters the pipe fails to meet and why the failures occur. Criteria like; condition of the existing pipeline, requirements for the desired performance, hydraulic capacity and structural design data, as well as financial considerations have to be taken into account. Since there is no single solution that covers each and every pipeline rehabilitation project, APS prides itself in providing a very broad range of pipeline rehabilitation methods from which we can offer a tailor-made solution fitting the specific circumstances of the project. Danby Panel Lok is one of these solutions.

Municipal providers all over the world face problems with their pipe infrastructures. Sewer and storm water pipes all suffer from age and deterioration, which can result in severe pipe damage. The high costs and impact on the local community often make it difficult to renew the underground infrastructure with the traditional open-trench methods. With the Danby Panel Lok System, rehabilitation of pipes is conducted intelligently and efficiently without requiring digging or pits, thus avoiding a severe inconvenience to urban life.

The Danby Panel Lok system for pipeline rehabilitation is both low-impact and cost-efficient, which makes it particularly useful in metropolitan areas. The Danby Pipe Rehabilitation process is a classic case of where the sum is greater than its parts. Danby's Rigid PVC strips, or panels, provide corrosion protection and improved flow characteristics. They also serve as the "form" that contains the grout. The cementitious grout, in turn, provides the anchoring system and structural strength.



Danby Panel Lok System Technology

The Danby System is a so-called Grouted-In-Place Liner (GIPL) and is manufactured in-situ with corrosion resistant plastic. Its primary components consist of extruded 300 mm wide, rigid PVC strips that are manufactured in profile heights of 12MM and 25MM. The Danby outer surface is ribbed, while the inside surface is smooth. The ribs, when curved to the contours of the host pipe, impart a hoop strength that provides the support to hold the liner in place and resist the grout pressure. The ribs also become the mechanical anchor when it bonds to the grout that is injected to fill the annular gap. The grout provides critical structural enhancement. The Danby System will extend the rehabilitated pipeline's useful life by another 50 to 100 years.

The Danby Panel Lok system is meeting the ASTM F1698-02; Standard Practice for Installation of Poly Vinyl Chloride (PVC) Profile strip Liner and Cementitious Grout for Rehabilitation of Existing Man-Entry Sewers and Conduits; and the ASTM F1735-02 (Re-approved 2008);

Standard Specification for Poly Vinyl Chloride (PVC) Profile Strip for PVC Liners for Rehabilitation of Existing Man-Entry Sewers and Conduits.

Installation Guidance Danby Panel Lok

- 1) For circular or near circular structures, Danby is typically extruded in coils of 50 meter lengths, then delivered to the job site.
- 2) After the deteriorated structure has been cleaned and prepped, Danby strips are manually unspooled and lowered through a manhole and put into place in continuous lengths. Once inside the pipe, the PVC panels are joined by incorporating male and corresponding female double locking edges. These edges form a circumferential joint which is then locked together using a smaller joiner strip made with an elastomer gasket, co-extruded to ensure the seams and joints are both gas and water tight.
- 3) Grout is then injected into the annular space from multiple injection points. Although any grout material, ranging from high strength cementitious materials to light-weight foam can be injected without undue restrictions due to flow characteristics, typically a mixture of OPC and Fly Ash is used forming a low viscosity, rapid setting high strength grout which provides additional structural strength.
- 4) When complete, the newly relined pipe is more structurally sound, with greater hydraulic flow characteristics than the original.



The Danby Panel Lok System has been successfully installed in pipes and structures ranging in diameters as small as 750mm to 3600mm, worldwide for over 25 years. We understand our technology and products are only as good as our installers. That's why APS is using a network of licensed Danby Panel Lok installation contractors, which have gone through a complete and comprehensive product training and education course, and then pass a field installation test.

In order to make the Danby Panel Lok System available in the region, APS uses a network of licensed distributors that provide around the clock technical and field support to make each and every installation a success.

APS brings unrivalled levels of innovation, experience and expertise in corrosion engineering and contracting.

We have in-depth knowledge of the industry, our customers' day-to-day challenges and the environmental, health and safety standards in the marketplace. By working in close partnership with our customers, our company is able to provide timely, efficient, cost-effective and above all quality products and services.

APS is certified to and operates in compliance with ISO 9001:2008/BS EN, ISO 14001:2004 and OHSAS 18001:2007.

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