

HydroFORM Liner™

HydroFORM Liner™:

The HydroFORM Liner™ offers an innovative solution for extending the service life of wells, improving water quality, and reducing maintenance costs and downtime. This method involves pressing or hydroforming a stainless-steel liner with a vulcanized seal against existing well casings, providing a robust and cost-effective repair option.

Unlike traditional relining methods, the HydroFORM Liner™ repairs and relines wells with minimal loss of internal diameter and without the need for grouting. This allows for the continued use of existing pumping equipment with little to no loss in capacity. Customisable for each application, this technique effectively seals breaches and holes, prevents contamination, and restores the integrity of the well.

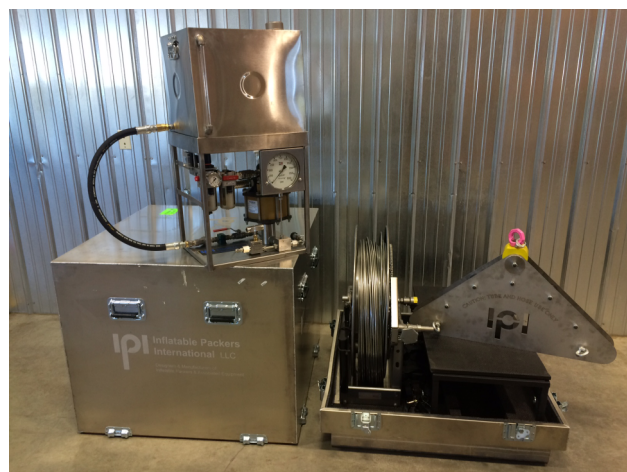
The HydroFORM Liner™ system utilizes expandable steel tubing with a thin elastomer coating. This elastomer coating is vulcanized onto the liner or patch, creating a positive seal along the patch and casing interface, as well as forming a compressed anchor surface to securely hold the patch in place.

Applications:

- ◆ **Well Casing Repairs:** Seals breaches and restores integrity in corroded, twisted, or damaged well casings.
- ◆ **Extend the service life of wells:** Installing a HydroFORM Liner™ where there are severe casing metal losses will increase the well's overall service life.
- ◆ **Contamination Prevention:** Seals holes and leaks that allow undesirable water intrusion or well contamination.
- ◆ **Partial Liners:** Ability to install targeted patches to cover specific sections, such as transitions between casing and screen.

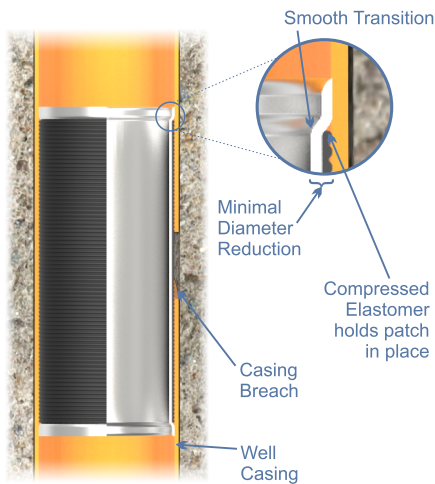
Benefits:

- ◆ **Versatile Depths and Diameters:** Applicable across various well sizes and damage depths, ensuring broad usability.
- ◆ **Minimal Downtime:** Quick installation process, often completed within a day, reduces service interruptions.
- ◆ **Cost-Effective:** Avoids the high costs of drilling new wells or relining with smaller casings.
- ◆ **Maintains the Production Capacity:** Unlike the traditional methods of the well rehabilitations HydroFORM Liners have minimal ID reduction.



HydroFORM Liner™

Single Patch

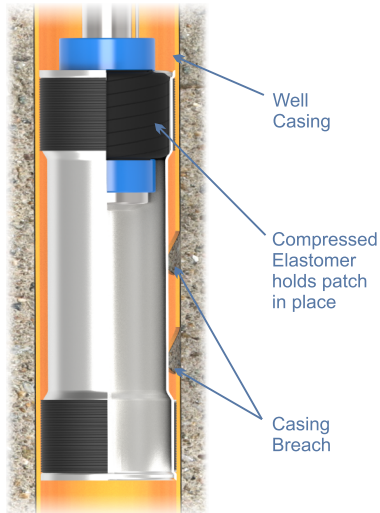


Installation Procedure:

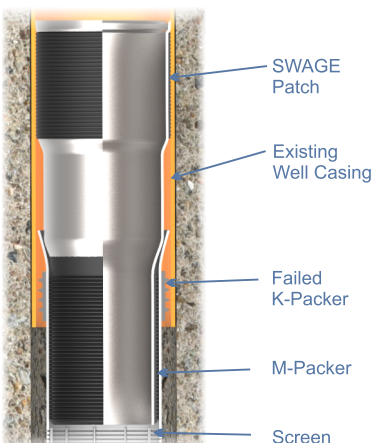
The installation tool for the HydroFORM Liner™ is a high-pressure inflatable packer that can deploy and expand the liner using either an external control line or the drill pipe. A typical installation process involves:

1. Mount the liner or patch onto the inflatable packer of the installation tool
2. Inflate the packer in the patch to securely hold the patch for deploying in the well
3. Run the assembly to the desired depth
4. Set the patch by increasing packer pressure until the liner material expands and anchors in place
5. Deflate packer and remove
6. For longer patches, the packer is progressively deflated, moved to the un-expanded portion of the liner, and re-inflated to continue expansion until the full length is expanded

Dual Patch



Screen Seal



Run-in



Swage Casing
Patch in
Three Stages



Complete,
Ready for
Production

