SEALSLEEVE™
Welded Joints for Steel Pipe with Thermoplastic Liners

Patent Pending

Thermoplastic Liners

Pipe with thick, flexible thermoplastic liners (i.e. HDPE, PVDF, PPS, PEX, PEEK) provides one of the safest ways to transport corrosive commodities.

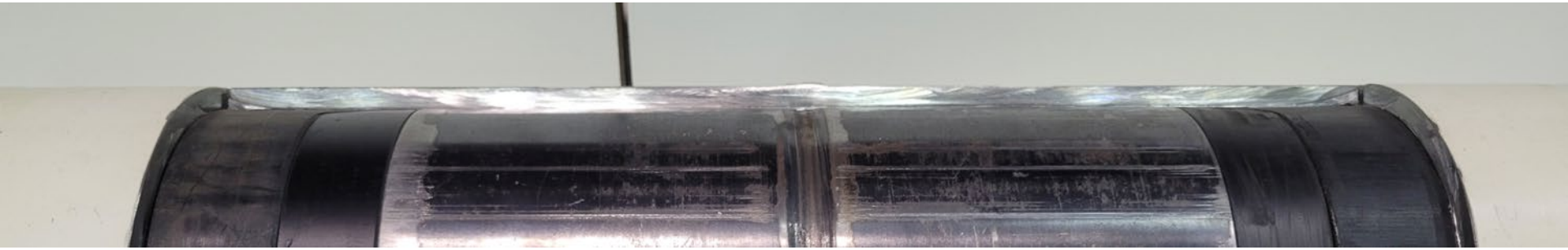
Thermoplastic lined steel pipe is used for offshore and onshore oil production, mining slurries, and other aggressive applications.

Welded joint connections are often desired or required, but the heat from welding would damage the plastic liner.

LPS' SealSleeve™ system provides a fast and practical solution to this problem.

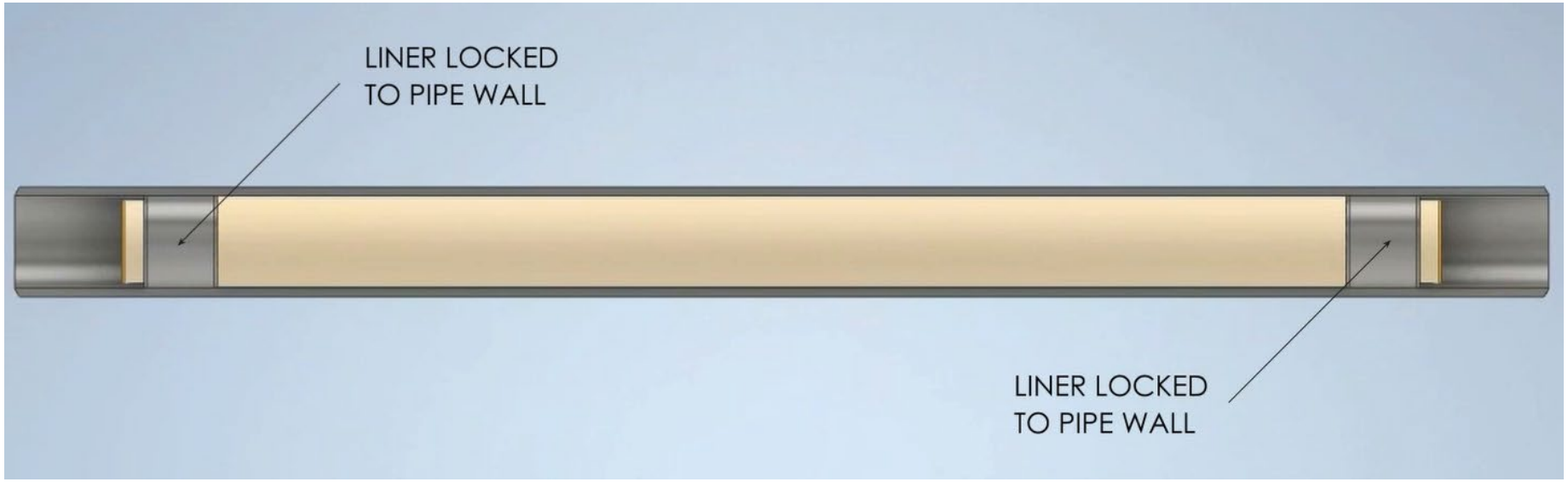
The SealSleeve™ System

- Permits standard full-penetration welds of thermoplastic-lined carbon steel pipe.
- Thermoplastic polymer sleeve bridges the weld zone.
- Prevents welding heat from damaging the plastic liner.
- Prevents liquids from reaching the bare steel behind the liner.
- Permits fast construction.



How It Works

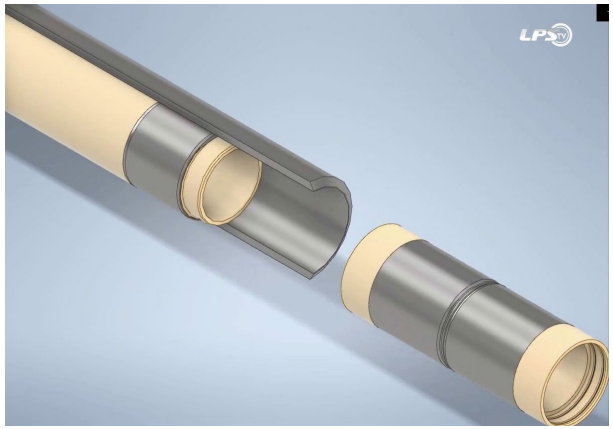
Liner pulled through pipe and locked to pipe wall

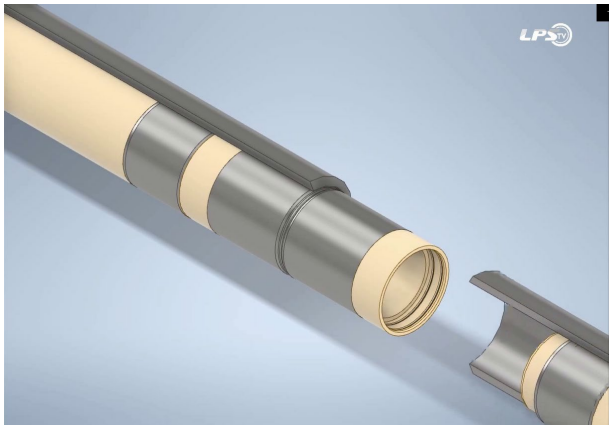


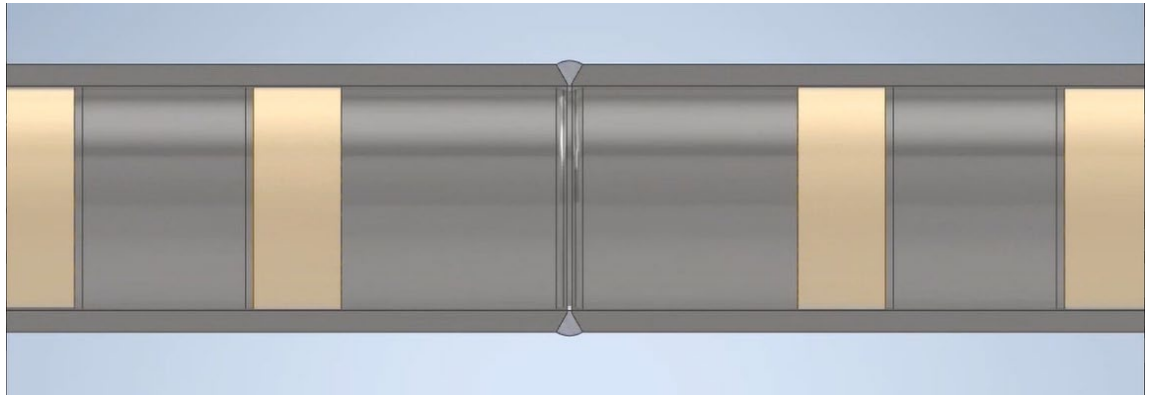
- Liner insertion and locking to pipe wall may be done in shop, spool base, or in field.
- Liner may be installed in any length of pipe section (12m or as long as currently possible).
- Locking rings withstand >30 tons of force, ensuring liner will not move.

How It Works

SealSleeve™ inserted into pipe ends during pipeline construction & girth weld performed

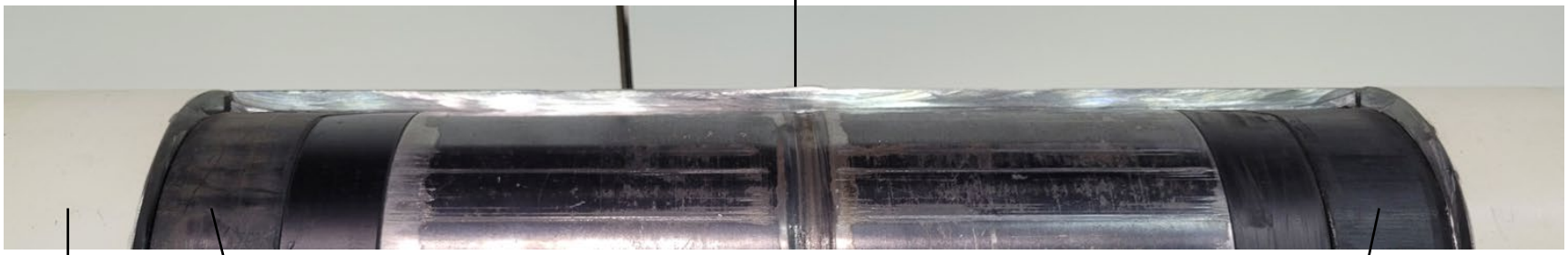






Watch the video: https://www.linedpipesystems.com/fast-standard-welded-joints-for-pipe-with-thermoplastic-liners/

Cross Section Photo



Locked Liner End

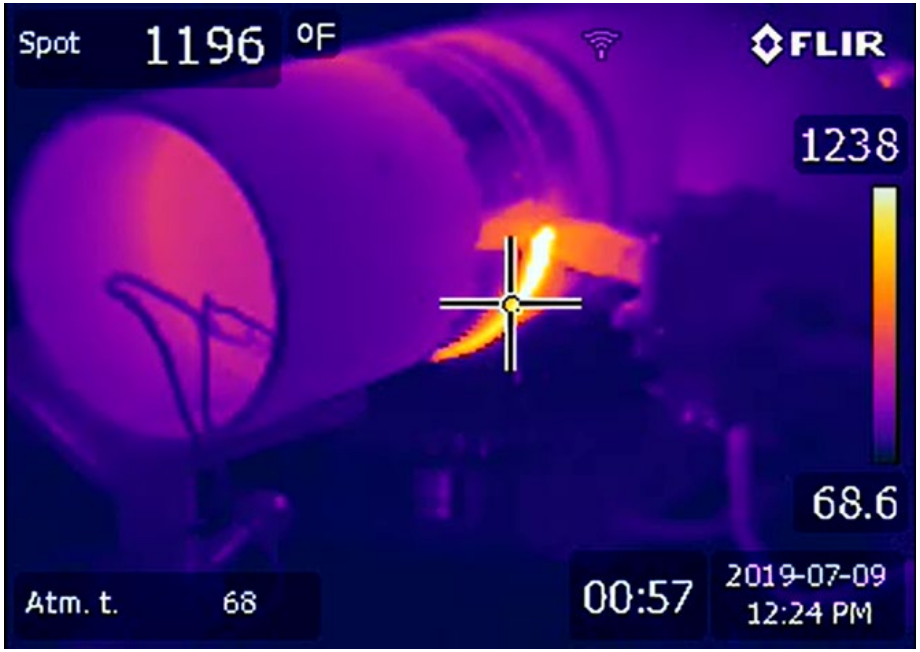
View of plastic liner end. Plastic liner is locked in place using a steel locking ring embedded behind the liner, creating a stable, immovable seat for SealSleeve™ to seal against.

SealSleeve™

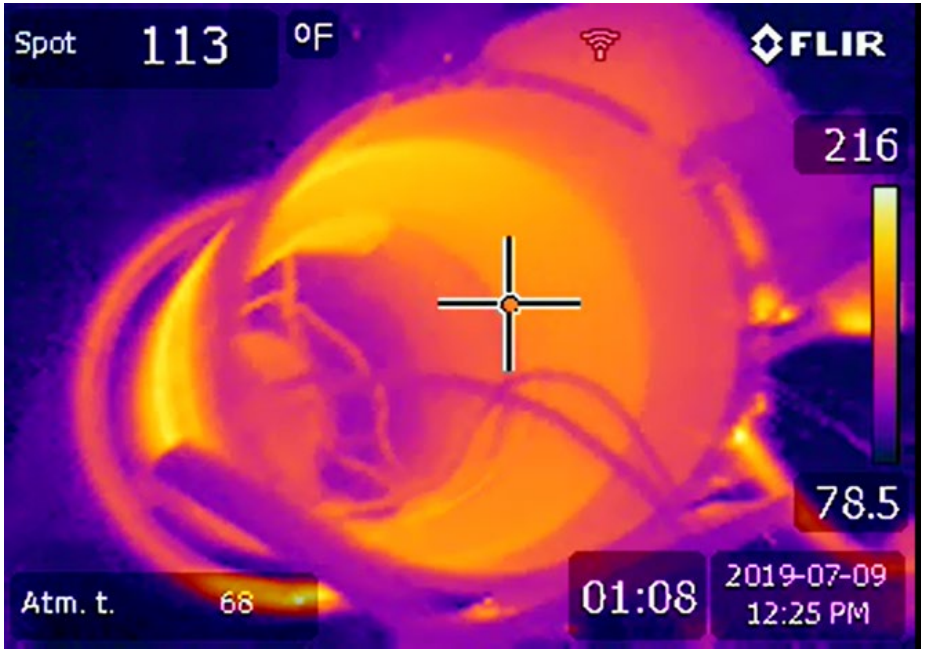
SealSleeve™ Insertion

Protecting Lining Integrity Through Weld Zone

Insulation material in sleeve prevents welding heat from damaging plastic liner.

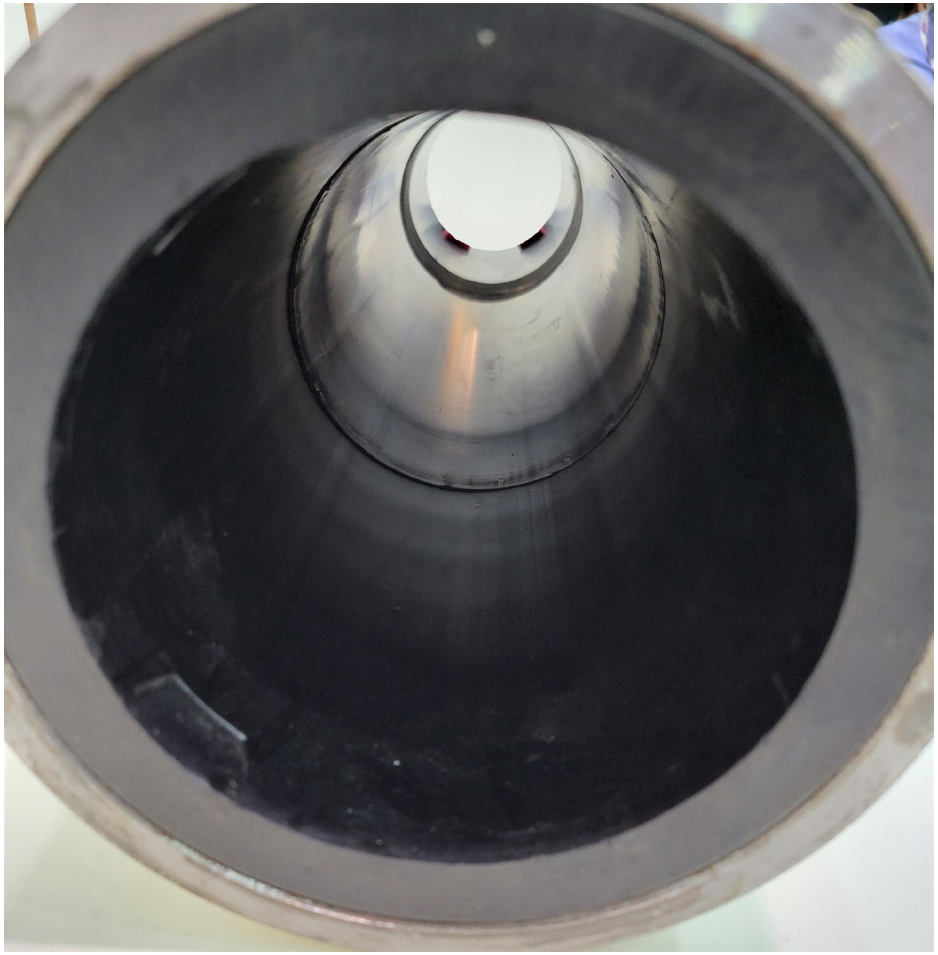


Infrared image of pipe exterior during welding



Infrared image of joint interior a moment later

Continuous Liner Through Weld Zone



Hydrostatic Pressure Tests

Hydrostatic pressure tests up to 500 bar (7,200 psi), without a weld.

The higher the pressure, the tighter the seal.

Watch the video: https://www.linedpipesystems.com/sealsleeve-500-bar-7000-psi-hydrotest-without-a-weld/

Field Bends, Field Cuts, Fittings

- Plastic-lined steel pipe can be cold bent in the field to any radius the steel pipe can withstand.
- Shop-lined elbows & tees are provided with tangent ends prepared to receive SealSleeve™.
- An adapter is attached to the liner at all field-cuts to allow the use of SealSleeve™ welded joints at tie-in locations.

Shop-Lined vs. Field-Lined Steel Pipe

Technical

- ✓ Liner is tighter against pipe wall, leaving no annular space between liner & pipe wall.
- ✓ Liner is sturdier and more collapse-proof than long-distance pull-through liners.
- ✓ Eliminates mechanical flanges.
- ✓ Eliminates field thermo-fusion.

Logistical

- ✓ Construction with shop-lined steel pipe is simpler & more flexible.
- ✓ Eliminates complexities of field-lining contractor mobilization and coordination with pipeline construction crews.
- ✓ Shop-lined pipe can be stocked and readily available for quick projects.

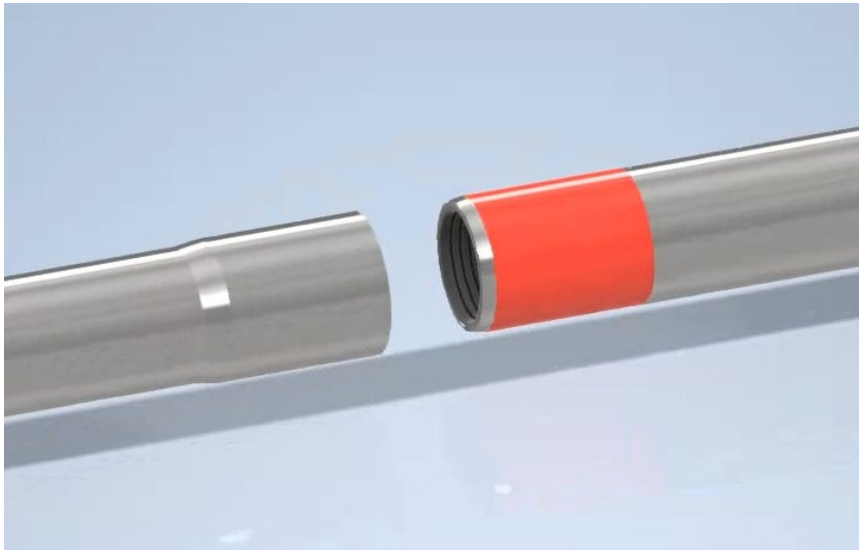
Cost

- ✓ Cost-competitive with field-lining total installed price.
- ✓ Faster construction schedule = less construction cost.

LinerLock™ for Mechanical Interference Fit Joints

LPS also has the LinerLock™ system for use with mechanical interference fit (MIF) joints*. LinerLock™ uses the same liner-locking and sealing mechanism as SealSleeve™, but MIF joints with thermoplastic liners offer the following advantages vs. welded joints:

- **Significantly faster construction with less personnel.**
- **Eliminates NDE requirements.**
- **Eliminates external coating patch requirements.**
- **Less material cost due to elimination of SealSleeve**



*LinerLock™ is being offered in conjunction with MIF joint manufacturing partner. Inquire for more information.

Contact Information

SealSleeve™: Welded Joints for Steel Pipe with Thermoplastic Liners

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