LinerBridge®
A polymer pipeline connector to eliminate CRA in polymer lined fabrication

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Benefits that add up

**Superior Life cycle cost**
35% reduced EPCI cost of CRA, comparable cost to corrosion allowance, knock on reduced capex, 5x service life of CS, reduced opex

**Designed for life**
7yrs is typical life expectancy of an unlined WI pipeline vs 50 yr qualified design life offered by Swagelining

**Reduced weight**
allowing lower cost installation vessels and reduced top tension on offshore installations

**Enhanced oil recovery**
through ensured water cleanliness

**Reduced operational costs**
$2m annual OPEX savings from improved flow assurance, reduced inspection and reduced use of chemical inhibition

**Enhanced flow assurance**
gained from excellent surface roughness properties of polymers and thinnest engineered liners in the industry

**Reduced operational complexity**
through no requirement for minimum velocities, routine pigging, inhibition uptime etc
Technical overview – connection systems

Tried and tested
Since 1995 over 60 subsea flowline projects completed using welded CRA clad connectors
- WeldLink® Connector
- Hub Connector

Innovation driving cost and risk reduction
Why does the industry need an alternative to CRA Connectors now?
- High cost - Effectively kills S-lay and J-lay
- Supply schedule challenges
- Complex CRA welding

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A polymer connector removing the need for CRA connectors

**Simple, Yet Ingenious**
Offers a step change in project economic and risk profile, through CRA removal

**Proven Technology**
Utilises robust and proven electrofusion welding technology, from utilities industry

**Size Range**
Qualified connectors from 8” – 16”
Total installed cost - CAPEX

35%* cost reduction between CRA mechanically lined and polymer lined solution for reel-lay

* All savings based upon 15km 10” pipeline
LinerBridge® qualification

LinerBridge® connector is currently at TRL5 in line with DNV and API guidance

Robust Qualification Process
Electrofusion welding qualification completed in line with SWL internal procedures. Installation trials completed in 2G, 5G and 6G orientations (including spool base tie-in and subsequent reeling). Carbon steel girth welding trials completed to confirm connector integrity post welding.

Simulated Service Testing
- Simulated Reeling Trials
- Hydrostatic Testing (320 – 380bar(g))
- Cyclic Pressure Testing (1,000 cycles; 0-250bar(g))
- Accelerated Age Testing (50yrs @ 50degC)

Higher Product Temperatures
Development of PE-RT LinerBridge® connector for higher temperature applications
THANK YOU

We look forward to discussing your need and exploring where we can best support you.

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