

ALL BRAND SERVICE

Besides being experts in our own products and our former brands, we also have the expertise to service other brands.

Kelvion Service

KELVION TUBELINERS & SHIELDS

With the Kelvion TubeLiners and Shields technology you can easily repair and restore damaged heat exchanger tubes.

Whether you are dealing with leaks caused by localized erosion/corrosion at the tube ends or throughout the entire tube length, Kelvion's Shields/Seals and Full-Length Tube Liners can extend the life of your heat exchangers to avoid costly down-time or bundle replacement.

YOUR BENEFITS AT A GLANCE

SAVE COSTS IN OPERATION & MAINTENANCE

- ▶ Prevent costly retubing and avoid full bundle replacements
- Kelvion is able to perform emergency repair services on failed equipment in-situ.
- Full-Length TubeLiners can ensure long-term reliable, uninterrupted production on critical heat exchangers, and prevent potential shutdowns from tube leaks.
- Shields/Seals are proven and effective repairs for problems related to inlet and outlet tube ends with I.D. or O.D. damage.



EFFICIENCY IMPROVEMENT

- ▶ Reduce fouling and corrosion
- ▶ Eliminate plugging tubes

SERVICE LIFE EXTENSION

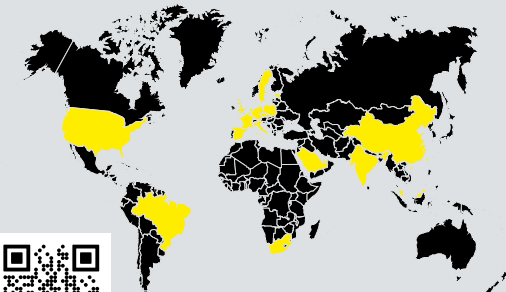
- ▶ Extend service life of heat exchangers

RELIABILITY

- ▶ Prevent emergency shutdowns to plug leaking tubes

**MORE THAN 30 SERVICE
LOCATIONS WORLDWIDE**

Kelvion Service starts from our first contact with you and continues after your order has been delivered, with us as your reliable service partner. Thanks to our worldwide service centers, we are always close to you.



Get in contact

RETURN ON INVESTMENT

Example: Full-Length Tube Liners versus retubing in 2-crude overhead condenser Air Fin Coolers in-situ:

DOWNTIME in Days



1,250,000 \$

1,000,000 \$

750,000 \$

500,000 \$

250,000 \$

0 \$

TUBE LINERS

NEW FINNED TUBES

COST SAVINGS WITH TUBE LINERS

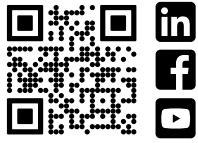
\$640,000 USD ≈ 50 %

NOTE: Replacement C276 bundles: \$1.14 M, not including removal of existing and installation of new Air Fin Coolers.



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www.kelvion.com

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KELVION SHIELDS

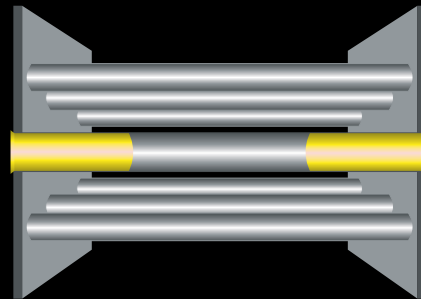
Shields/Seals repair damaged and/or leaking tube ends and prevent unnecessary retubing or plugging.

Why replace the entire tube when only the first 20-30 cm are worn?

They are also commonly installed in new heat exchanger tubes to prevent damage that can lead to leaking/plugged tubes. Shields/Seals can repair/restore tubes suffering from corrosion.

The installation is done by using two methods:

- ▶ Mechanical Expansion
- ▶ Full Length Hybrid Expansion

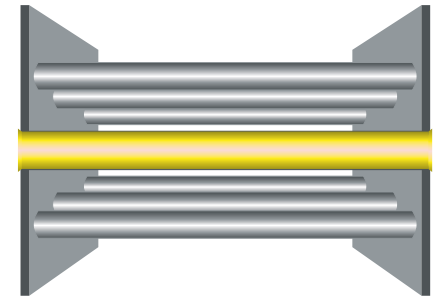


KELVION TUBELINERS

Full Length TubeLiners are designed to restore tubes that are suffering from isolated or full-length corrosion (pitting, cracking).

Leaking or damaged tubes requiring plugging are returned to service. Reduced fouling of Liners increases efficiency over plain carbon steel tubes. TubeLiners are designed into new heat exchanger builds to increase reliability and extend service life expectancy.

Eliminating tube leaks in between turnarounds and avoiding emergency shutdowns to plug are proven cost savings benefits.



4 STEP PROCESS



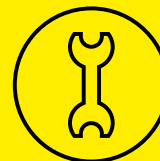
GATHER INFORMATION

Data sheets, drawings, NDT reports, tube failure analysis, borescope photos



PROPOSE REPAIR

Shields/Seals for tube end repair (from 100 mm to over 4000 mm), Liners for tubes with full-length damage (up to 18000 mm)



INSTALLATION

Materials, supervisor, trained technicians and specialty equipment mobilized in-situ to execute the heat exchanger repairs



QUALITY CONTROL

Final inspection, customer hydro/pressure test verification of the repairs