ERW

SOFRATEST BY
Controle Mesure Systemes Group

SOFRATEST

World Leader in Automated Ultrasonic Inspection Systems

Made in France

www.sofratest.com

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ERW

The ELECTRICAL RESISTANCE WELDING (ERW) manufacturing process involves the use of resistance heating and high pressure in order to produce a longitudinal weld. This process refers to a solid phase butt weld.

The ELECTRICAL RESISTANCE WELDING is produced by a form of pressure welding which uses heat generated by electrical resistance with applied force to hold the pieces together during the welding process. Different types of ERW processes are rolled and welded longitudinally.

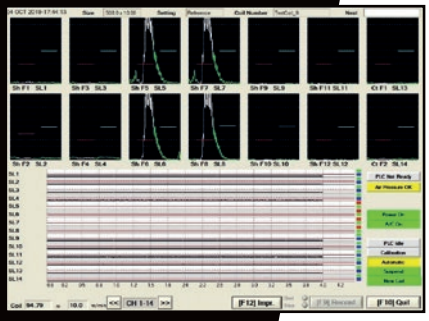


Plate and coil UT Inspection

The inspection of the strip (also known as coil) before the forming & welding allows to detect defects early in the manufacturing process.

STRIP INSPECTION FEATURES

- Testing for lamination defect or inclusions
- High inspection speed
- This equipment allows for either partial inspection (oscillation of the transducers) or full body
- High clearance under the sensors when they are raised
- The side transducers follow perfectly both strip edges
- Calibration table to perform an off-line calibration
- Full data analysis with multi-A-scan screens

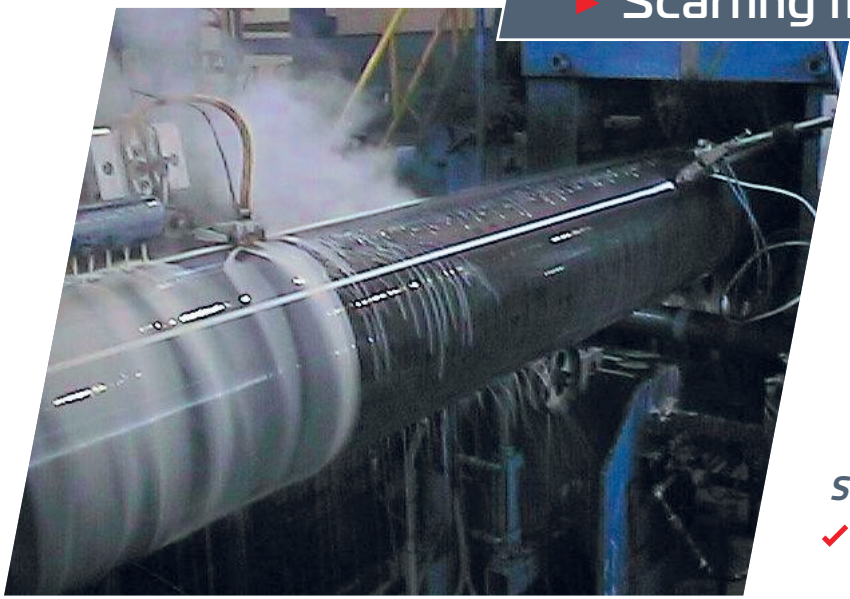
Comply with international standards:

- *EN10893-9*
- *EN10160*
- *SEL072*
- *ASTMA578*
- *ASTM435M*
- *BS5996*
- *API5L46TH*
- *ARAMCO*

SYSTEMS HIGHLIGHTS

- ✓ Different probe configuration according to the required defect detection
- ✓ 100% coverage of the plate and edges
- ✓ Customized inspection report
- ✓ Possibility to connect level 3 or MES with SFT software analysis

Scarfing monitoring system



The scarfing monitoring system also known as I/O Profile is designed to be placed right after the welding occurs.

The system allows to control the inner and outer profiles. It is triggered by an alarm when the tolerances are exceeded.

A material thickness measurement is done simultaneously. Broken, worn, chipped flash cutting tools or mismatched weld edges are easily detected and alarmed.

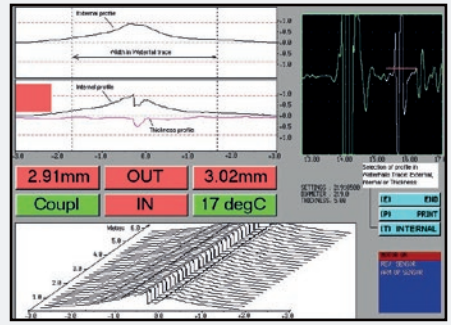
SYSTEMS HIGHLIGHTS

- ✓ **Scrap reduction: catch flash removal problems before they become costly**
- ✓ **This equipment can be integrated very close to welding station / seam annealer**
- ✓ **Equipment which can operate under very harsh condition**
- ✓ **Representation of the wall thickness and weld profile in real time**

SCARFING MONITORING FEATURES

- Cooling liquid of the line can be used as coupling
- High stability allows high inspection speed
- Adaptability to a large tube range
- User friendly software
- High resolution
- Display of outside and inside profile

The assurance of a quality inspection

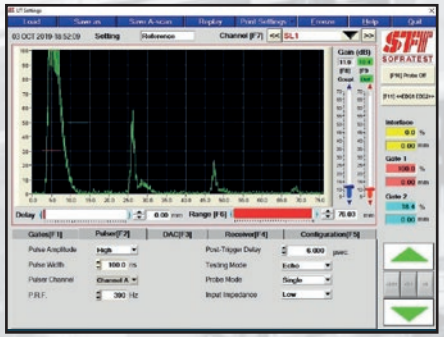


SCREENSHOT OF OUR SOFTWARE SOLUTION

The leader of NDT equipment

On-line weld inspection

SOFRATEST on-line welded inspection unit allows to check the quality of the weld close to the welding station and detect potential defect early in the production process.



ON-LINE WELD INSPECTION FEATURES

- Allow to detect longitudinal and transverse defect in the weld seam (several transducer patterns available: I, K, X)
- Allow to detect lamination defect in the Heat Affected Zone (HAZ)
- The inspection head can slide in an off-line position to perform calibration on a standard pipe (moving at production speed)
- Several inspection head configurations are available
- Phased array electronics can be integrated on SOFRATEST systems

SYSTEMS HIGHLIGHTS

- ✓ **Moving inspection head which hold several UT transducers**
- ✓ **The UT transducers position around the weld is easily adjustable**
- ✓ **Laser tracks the weld to adjust the position of the UT head automatically**
- ✓ **Reliable and robust mechanical design (vibration free)**
- ✓ **Customized inspection speed**
- ✓ **High inspection speed**
- ✓ **Remote calibration screen on the line**

Comply with international standards:

- *API 5L*
- *EN10226*
- *EN 10219*
- *BS1387*
- *ASTM A53*
- *ASTM A795*
- *ASTM A5W*
- *EN10217*

Find out more on our website: www.sofratest.com

Comply with international standards:

- API 5L
- EN10226
- EN 10219
- BS1387
- ASTM A53
- ASTM A795
- ASTM A5W
- EN10217

Off-line weld inspection

SOFRATEST offers off-line solutions to inspect the weld seam and/or the full body of ERW tube after end facing and hydrostatic test.

OFF-LINE WELD INSPECTION FEATURES

- Allow to detect longitudinal and transverse defect in the weld seam (several transducer patterns available: I, K, X)
- Allow to detect lamination defect in the Heat Affected Zone (HAZ)
- Allow to perform full body inspection with lamination detection
- Allow Special End Area (SEA) inspection
- Several inspection head configurations are available
- Phased array electronics can be integrated on SOFRATEST systems

SYSTEMS HIGHLIGHTS

- ✓ Moving inspection head which hold several UT transducers
- ✓ The UT transducers position around the weld is easily adjustable
- ✓ Laser tracks the weld to adjust the position of the UT head automatically
- ✓ Remote calibration screen on the line
- ✓ High inspection speed
- ✓ Customized inspection report
- ✓ Reliable and robust mechanical design (vibration free)

SOFTWARE

Our software solutions create custom inspection reports using the raw data from the NDT equipment.

Find out more on our website:

www.sofratest.com

SOFRATEST BY
Controle Mesure Systemes Group

For more than 35 years

SOFRATEST is one of the world leaders in designing and manufacturing automated Ultrasonic inspection systems.

SOFRATEST develops his own heavy-duty systems specially designed to operate within harsh conditions including reliable automation solutions and user friendly software.

SOFRATEST organization charts allow to deliver customized turnkey solution to our customer.

SOFRATEST has been serving numerous markets such as aerospace, steel industries, automotive and nuclear.

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