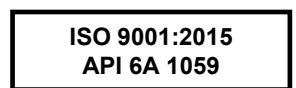


**LTS ENERGY**

The Next Generation .....

# ***THE USE OF MECHANICAL CONNECTORS IN MOLTEN SALT SYSTEM APPLICATIONS***

*Dedicated to Quality and Excellence*



# **INTRODUCTION**

**LTS was established in 1993 based in Houston Texas specializing in High Pressure and High Temperature Containment.**

## **LTS Critical Piping Products;**

- ❖ **HP-HT - Wireloc® Clamp Connectors thru 60” NPS**
- ❖ **HP-HT - FlangeTec® Compact Flanges thru 60” NPS**
- ❖ **HP-HT - Wireloc® and Underbalanced® Seal Technology**

# INTRODUCTION

## Primary Industries LTS Serves;

- ❖ Energy Oil & Gas Production through 20,000psi (1,379bar) DP and temperatures through -75°F (-60°C) / 650°F (343°C)
- ❖ Petrochemical through 53,000psi (3,654bar) DP and temperatures through 1,300°F (740°C)
- ❖ Chemical through 25,000psi (1,724BAR) DP and temperatures through 1,200°F (650°C)
- ❖ Refining through 6,170psi (425bar) DP and temperatures through 1,000°F (538°C)
- ❖ Aerospace through 15,000psi (1,034bar) DP and temperatures through -423°F (-253°C) / 1200°F (343°C)

# ADVANTAGES

## Primary Advantages of LTS Products;

- ❖ Seal technology has over 60 years of proven track record utilized in HP-HT piping and vessels worldwide
- ❖ Seal ring is all metal, pressure energized and reusable
- ❖ High Integrity, High Safety and proven Reliability
- ❖ Gas tight/bubble tight sealing even after 30 years of life
- ❖ All pressure retaining components are forgings

# PRODUCT APPLICATIONS

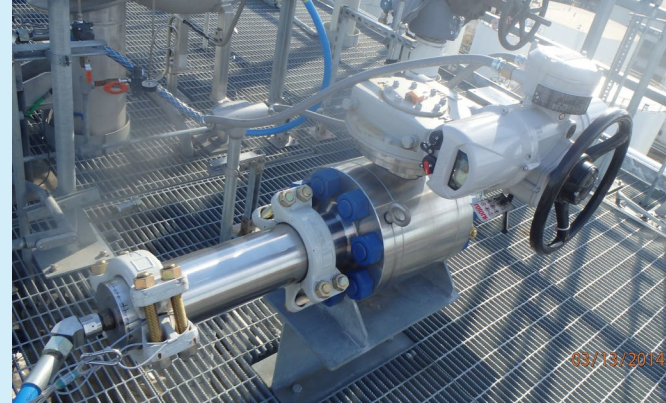
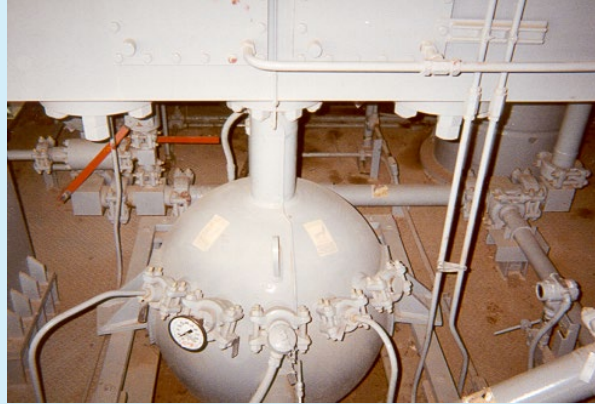
## Typical Product Applications;

- ❖ Process Piping Connections
- ❖ Pressure Vessel and Reactor Closure Connections
- ❖ Valve Connections
- ❖ Pump Connections
- ❖ Instrumentation Connections

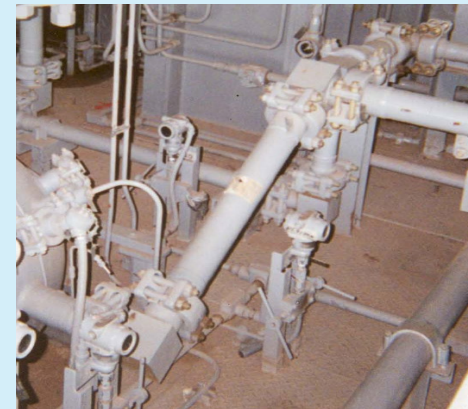
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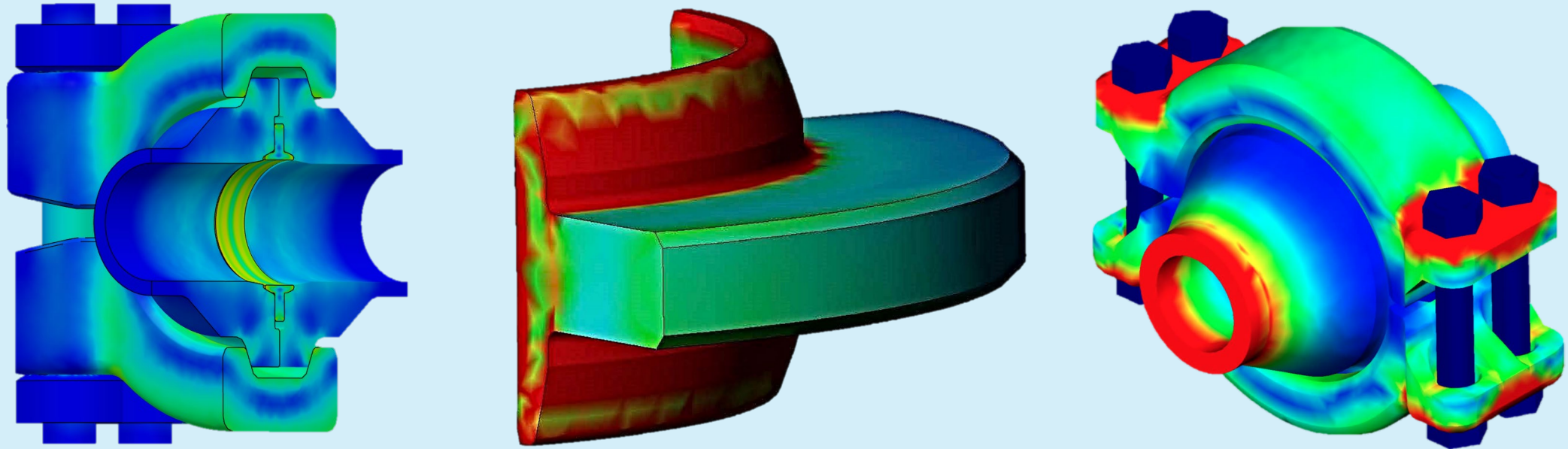
# PRODUCT APPLICATIONS



**Wireloc®  
standard  
applications**



# PRODUCT RE-DEVELOPMENT

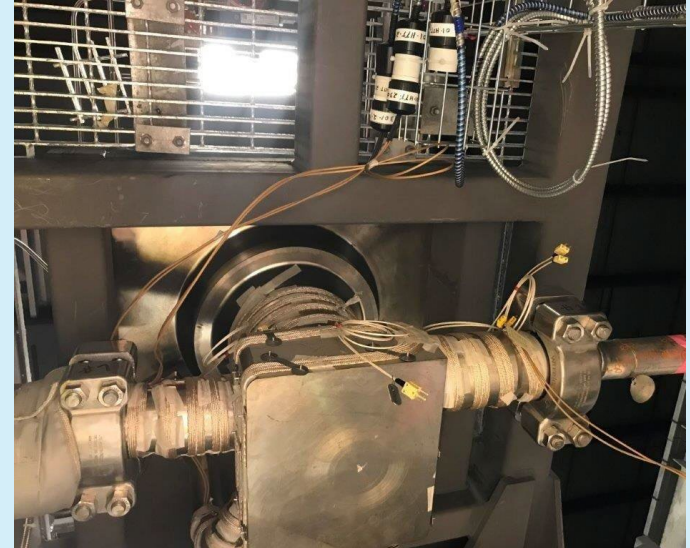


**LTS developed its Wireloc® HT Series Clamp Connectors targeted for up to 1500°F (816°C) applications for Piping and Vessel connections using Dassault Simulia Professional, Elastic-Plastic, Non-Linear software**

**LTS ENERGY**

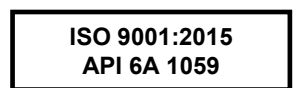
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# MSR PRODUCT SUPPLY



**In 2019 LTS was selected by TerraPower to supply Wireloc® HT Series Connectors for their MSR IET**

Pictures courtesy of TerraPower





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# MSR PRODUCT SUPPLY



**LTS Wireloc® HT Product supply  
included integrating Piping and  
Vessel Connections**

Pictures courtesy of TerraPower

# PERFORMANCE & PROOF TESTING

A 2" Wireloc® HT Clamp Connector was subjected to 1300 hours of combination, pressure, temperature at 1200°F (650°C) and external loading, over a 6 month period **WITHOUT LEAKING!**



Pictures courtesy of TerraPower

**LTS ENERGY**

**The Next Generation .....**

***THANK YOU FOR YOUR TIME***

**Presented by: Kevin Leaning**  
**[kleaning@ltsenergy.com](mailto:kleaning@ltsenergy.com)**

Special thanks to TerraPower

