SwRI®

SOUTHWEST RESEARCH INSTITUTE

Test Services for Offshore Insulation and Corrosion Protection Systems

Southwest Research Institute® (SwRI®) provides facilities and numerous test capabilities for the offshore industry and manufacturers of insulation and corrosion protection materials. The SwRI Structural Engineering Department test facilities include ocean simulation test chambers, mechanical test equipment, technical assistance in setting up tests and procedures, and an experienced technical staff that includes support from SwRI corrosion engineers.

Capabilities

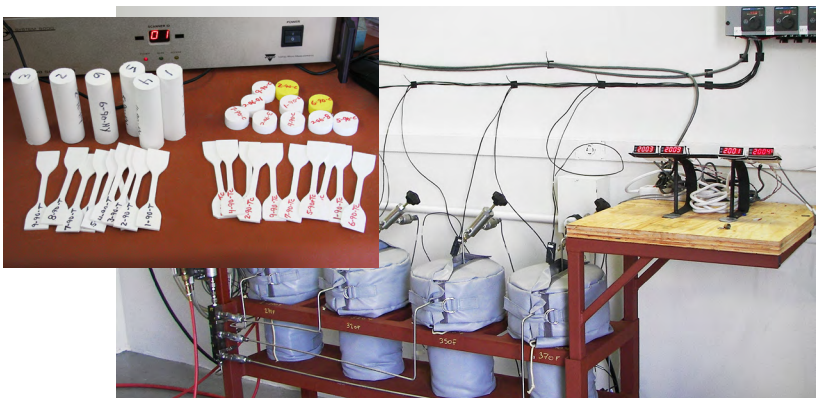
- Simulated service tests
- Insulation materials testing
- Hydrostatic water absorption
- Thermal testing of insulation
- Mechanical properties tests

Experience

- Qualification of subsea wet insulation materials and application procedures to operator specifications by performance of short- or long-term tests simulating environmental and operating temperatures at rated depth
- Simulation of deepwater subsea conditions and thermal conditions to evaluate mechanical and thermal integrity of insulation materials in real time
- Test results used for evaluation to determine:
  - Effectiveness of different types and thicknesses of wet insulation in subsea conditions, cool-down periods
  - Verification of thermal, mechanical and application characteristics of product
  - Mechanical properties of materials for comparative analysis (exposed and unexposed samples)
  - Tensile/elongation, density, hardness, hydrostatic crush, FTIR, DMA

D014181

Simulated service insulation test samples being set up for pressure/temperature test



D014178

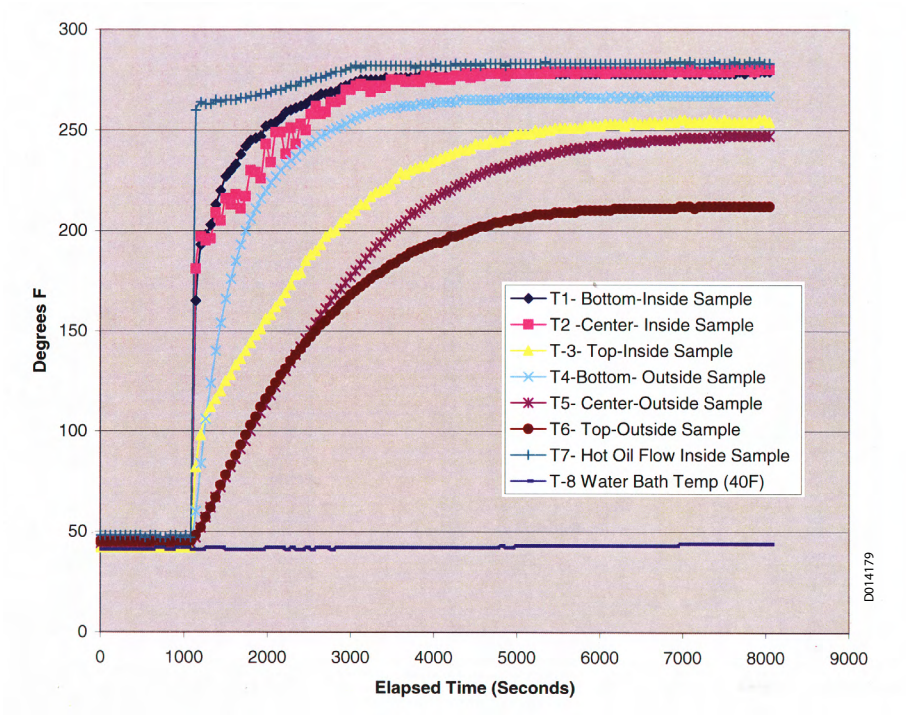
Hydroclave assembly for long-term exposure testing (Inset – Material test samples)

D014183

Adhesion strength test on insulation samples to evaluate bonding strength of insulation to steel substrate

Facilities

- Underwater Engineering Laboratory with hydrostatic test chambers that can be used to simulate temperatures and ocean depths greater than 10,000 feet
- Hot Oil Flow Unit to internally heat a pipe sample subjected to external pressure or ambient conditions



Typical plot of thermocouple sensors on insulated pipe undergoing thermal testing

Subsea insulated pipe sample at 10,000-ft depth in 40°F salt water (internal pipe temperature 280°F)

We welcome your inquiries. For more information, please contact:

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