

Research & Development Center



A Center of Innovation

TMK IPSCO's Research & Development Center is a premier center for technology, developing product advancements in welded and seamless pipe as well as premium connections. Furthering our commitment to deliver a competitive advantage for our customers, the 70,000 square foot Research & Development Center combines the most advanced virtual and physical testing equipment with some of the industry's leading engineers, scientists and technologists. These tubular experts cover a variety of disciplines, including metallurgy, mechanical engineering, corrosion and product testing. Customers seeking to shorten their time to market have the opportunity to collaborate with our team members—and utilize the center's state-of-the-art equipment—to develop more customized solutions for the industry's ever-changing applications.

Virtual Testing for Performance Values

Premium connections have become a critical aspect of well designs in today's unconventional drilling environments. The development—at an accelerated pace—of connections ideally suited for today's severe drilling conditions starts with virtual testing. At the Research & Development Center our metallurgists and engineers apply finite element analysis and other advanced software to generate 3D predictive modeling to virtually validate connection performance prior to physical testing, a savings of both time and money for our customers. These in-house capabilities allow us to cost effectively develop multiple prototypes representing a broad range of performance properties.



Improving Corrosion Resistance

Sour service applications have grown dramatically in oil and gas exploration and transmission. As a result, the need for corrosion-resistant materials has amplified. To that end our Research & Development Center includes a comprehensive, state-of-the-art corrosion lab capable of running a series of physical tests on alloys and coatings. HIC (hydrogen induced cracking) and SSC (sulfide stress cracking) testing can all be performed in-house under the careful eye of our metallurgists. In addition our scientists who are at the forefront of NACE testing are conducting advanced research on materials solutions for future drilling conditions. Our metallurgists will also perform tests customized to our customers' specific requirements.

Extreme Physical Testing for Product Integrity

To help ensure products meet ISO 13679 standards and perform as expected in specific down-hole conditions, our Research & Development Center offers an extensive range of physical tests—all on-site and without the time delays associated with outside labs. Much of a product's physical testing for tensile, compression, bending, collapse and high temperature metrics can be performed on one of our two (1,000 ton and 2,000 ton), in-house connection testing load frames providing testing capabilities for both small and large ODs (up to 13 3/8"). Thermocycling and mechanical cycling can be performed individually or in tandem, again to save development time and expense.

R&D Center Capabilities

- Scanning Electron Microscope (SEM)
- Chemical and Microstructural Analysis
- Turnkey Corrosion Laboratory
- Welding and Heat-treat Laboratory
- Complete Metallurgical and Material Testing Laboratory
- Environmental Test Chamber
- Static Compression and Tension Testing
- Dynamic Compression, Tension and Fatigue Testing
- Collapse and Burst Testing



Global Strength

TMK IPSCO is an industry leader in welded and seamless pipe, premium connections and accessories with a legacy of quality, exceptional customer service and innovation. We offer unparalleled value for our customers through the strength of more than twenty manufacturing facilities strategically located in the key energy-producing areas of the world. Our strength—in product and presence—gives customers a competitive edge, making us the ideal supplier for the oil and gas industry as well as many other industrial markets worldwide.



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