



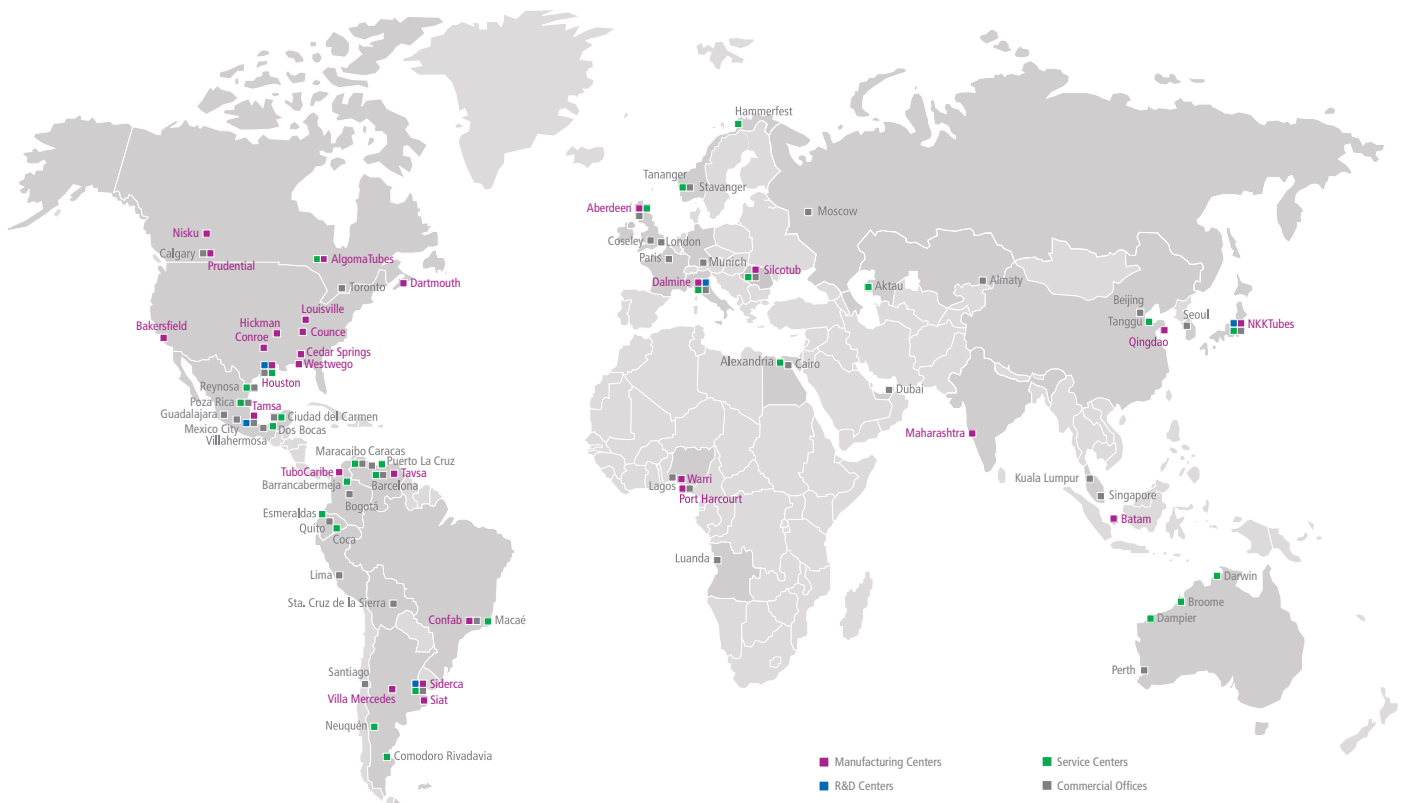
Products and Services for Thermal Applications



Global Leader

Tenaris is a leading supplier of tubes and related services for the world's energy industry and certain other industrial applications. Our mission is to deliver value to our customers through product development, manufacturing excellence, and supply chain management. We minimize

risk for our customers and help them reduce costs, increase flexibility and improve time-to-market. Tenaris employees around the world are committed to continuous improvement by sharing knowledge across a single global organization.





Thermal Solutions

Tenaris offers a complete range of products and services to meet the challenges of thermal environments located in onshore, offshore, deepwater and Arctic regions. In demanding applications, where wells exceed 350 degrees Celsius, with multiple unconsolidated geographic formations and thermal gradients throughout, reliability and experience are critical.

Proven Technology

We are combining our proven technology and expertise to provide each customer a single, customized solution. Our proprietary steel grades and TenarisHydril premium connections are designed to withstand the extreme temperature and pressure of the

most challenging thermal applications. Tenaris is also a leading supplier in PCPRods and Coiled Tubing, both critical in severe environments where durability is necessary.

Dependability

Tenaris offers a complete service package that guarantees the delivery and installation of our products and provides the customer one point of contact for the entire pipe handling process.

Our close proximity to customers, the support of our global network and R&D centers as well as our understanding of Canada's unique environment allow us to deliver solutions when and where customers need them.



Premium Connections

Our TenarisHydril premium connections provide optimal results for thermal wells.

TenarisHydril Blue™ technology is designed for the most complex and environmentally sensitive oil and gas wells in Canada. Providing all-around excellent performance, Blue connections have been widely used in wells with up to 90 degrees of deviation; build rates of 10 to 14 degrees per 30 meters and extremely high temperatures.

Our Wedge Series 500 technology is specially designed for use where torque strength is critical. With a proven track record in thermal environments, Wedge Series 500 connections combine exceptional compression efficiency and torque strength to meet the demands of the most challenging thermal environments.





Thermal Tubulars

For onshore pipelines, Tenaris manufactures a complete range of line pipe for use under the most demanding conditions.



Proprietary Line Pipe

Tenaris produces steamlines to meet a variety of standards, including CSA (Canadian Standards Association) and proprietary grades. We work directly with the customer to ensure our products meet the most stringent environments, their specific requirements and the applicable regulatory requirements.

Tenaris is also the leading manufacturer of process pipe for thermal applications. Tenaris works with selected distributors, engineering and oil companies to ensure expectations are met in terms

of the product specification, project timing, follow-up and technical assistance and that all Tenaris products for the application are coordinated into one bundle.

Proprietary Casing Grades

The severe environments of thermal wells place extreme demand on steel tubulars, resulting in the need for OCTG materials with optimized performance properties designed specifically for this environment. Through a focused R&D effort, Tenaris has developed the TN55TH and TN80TH material grades

featuring a combination of dimensional controls and post-yield mechanical properties that provide optimized tubular performance in thermal wells.

The enhanced post-yield mechanical properties of TN55TH and TN80TH material provide the client with confidence that the casing string can withstand the severe compression and tension loads caused by thermal cycles without suffering localized deformations.

Coiled Tubes



HS 70 provides reliability and durability in the most extreme thermal conditions. Due to severe Hydrogen Sulphide (H₂S) gas in SAGD environments, coiled tubing can become brittle and begin cracking at the surface. Tenaris offers

HS 70 pipe metallurgy because it reacts best in thermal environments due to its high ductility and lower Rockwell C rating, thus providing longer fatigue life.

Hollow Sucker Rods

Tenaris produces hollow rods for Progressive Cavity Pumping (PCP) in regions where oil is viscous. Our PCPRod[®], hollow pumping rod, reduces friction between the rods and tubing due to the design of its flush

joint. Additionally, the PCPRod[®] provides reliability in its high torque capacity and extended fatigue life. For thermal environments, PCPRods[®] are able to inject fluids into the rod for heavy oil pumping.





Services

Tenaris offers service packages specific to customer needs. Because of the simplicity of a single source provider and no additional suppliers, customers can save valuable time and money through the consolidated services offered. Services include project management,

on-site material coordination, delivery to the well and demand planning among other features for thermal operations. The amount of savings in time and quality that the operator can obtain by utilizing Tenaris's service solutions is worth the investment.





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