THera™

Tenaris

High Pressure Hydrogen Storage Solutions

In 2021, Tenaris launched THera™ - Tenaris Hydrogen era - its proprietary products and materials technology for hydrogen applications. The Tenaris Thera™ product portfolio embraces solutions that span from efficient and reliable high pressure hydrogen storage vessels, innovative modular linear systems for storage of high volumes of compressed hydrogen, tubes and pipes for long distance hydrogen transportation as well as tubulars and accessories for underground geological hydrogen gas storage.

THera™ Highlights

- Hydrogen tested beyond the standards
- Fully customizable
- Guaranteed fatigue life
- Long lasting

THera™ Product Portfolio

- High Pressure Storage Solutions
- Modular Linear Storage Solutions
- Transportation Solutions
- Underground Storage Solutions

Technical data

Design standards

Full compliance and certification to European Pressure Equipment Directive, PED 2014/68/EU. Available design codes:

- EM 13445-3
- AD 2000-Merkblatter B0+B1+B9+S1
- EN 17533

Full compliance and certification to ASME: Boiler & Pressure Vessel Code. BPVC Sec. VIII

Design Pressure and Temperatures

1034bar (15000psi)

550bar (8000psi)

330bar (4785psi)

240bar (3500psi)

Design Temperature range is typically -40° C to +65° C.

THera™ High Pressure Hydrogen Storage

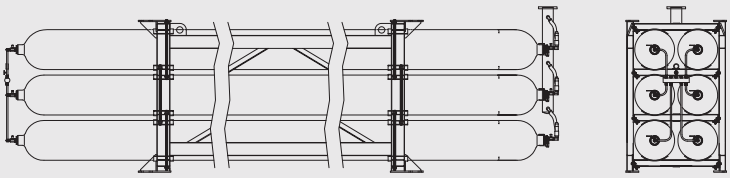
Tenaris THera™ portfolio covers a wide range of high pressure applications, with hydrogen storage masses ranging between a few kilograms for individual pressure vessels, up to several tonnes for multiple vessels installed into modular and stackable racks.

The core of these systems are Tenaris Thera™ monolithic seamless steel vessels, capable of withstanding extremely high service pressures.

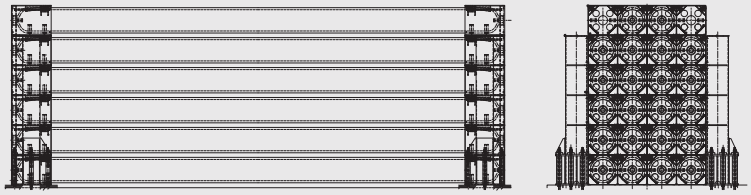
These are modular and flexible solutions in terms of both size and expandability.

Tenaris has a fully integrated production cycle and is the only high pressure hydrogen storage vessels manufacturer able to control the entire production, from steel making to the finished product.

Open ends



Boxed ends



Customized rack solutions

Upon request, THera™ pressure vessels can be supplied in pre-assembled modular structures that are easy to transport on site and can be installed side by side or stacked vertically according to the location and application requirements. Contact a Tenaris representative for further information.

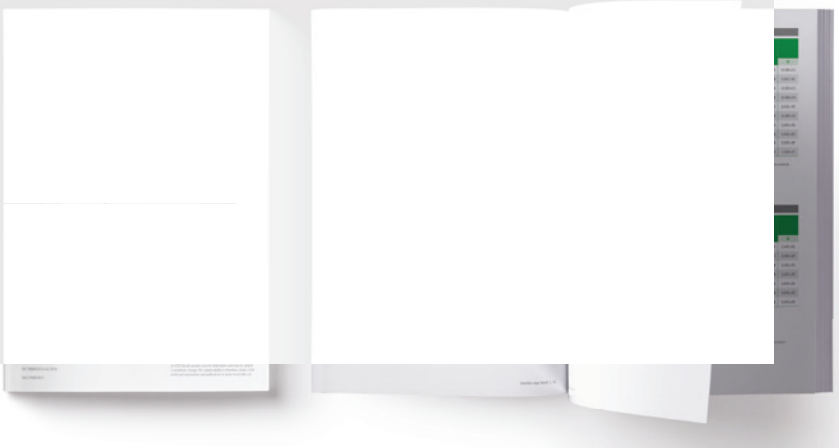
Project:

Hydrogen refueling stations (Long Beach, California)

Tenaris has supplied THera™ storage systems for the hydrogen truck refueling network stations in Long Beach (California), aiming to reduce emissions in connecting the Port of Los Angeles to a major warehouse complex inland.

Environmental Product Declaration

Tenaris obtained the Environmental Product Declaration (EPD) that states the environmental performance of its large tubular vessels, based on their Life Cycle Assessment. EPDs disclose in a transparent, objective and standard way the environmental credentials of our products, measuring the impact of a ton of steel pipes in terms of air emissions, energy use, climate change, the recovery of co-products and water use.



Learn more about our
High Pressure Hydrogen Storage Solutions

https://www.tenaris.com/en/products-and-services/low-carbon-energy/hydrogen-storage-systems