

The Cryogenic Revolution: Optimizing Intermodal Liquid Hydrogen Transport

CTT Cryo Trans Tech

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Hydrogen 40ft ISO container tank

Certified for the transport of Liquefied Hydrogen

Long holding time

Special insulation enabling superior residence time.

Designed for multimodal transport

Road • Rail • Sea – engineered for safe global logistics.

Certified QA manufacturing

Manufactured under a certified quality assurance system.



40ft ISO cryogenic container – Liquid Hydrogen (LH₂)

Advanced insulation & performance

Optimized for thermal efficiency and long holding time



CTT cryogenic ISO container tank (LH₂)

Key metrics

- Holding time: 44 days
- Max. payload: 2,467 kg
- Ultra-high vacuum: 0.01 mBar

How it works

- Nano-material with non-Newtonian fluid properties adapts to vessel shape
- Nano-level vacuuming + non-transparent insulation reduces radiation effects
- Superior thermal efficiency for long-distance transport

Premium transport solution for Liquefied Hydrogen

Built for safety, reliability, and global reach

What this enables

- Engineered in full compliance with project design specifications
- Manufactured under a certified quality assurance system
- Rigorous factory testing and non-destructive inspection methods
- Safe handling, structural integrity, and regulatory compliance end-to-end



Operational deployment (road transport)

Basic information

Design codes, operating envelope, materials, and capacity



40ft ISO container tank – Liquid Hydrogen (LH₂)

Design & operating

<i>Design code</i>	EN 13530-2:2002/AC:2006 • ADR2025 • ASME VIII Div. 1
<i>MAWP</i>	6 bar
<i>Test pressure</i>	9.1 bar
<i>Design temperature</i>	-269°C to +50°C
<i>Min. filling temperature</i>	-259°C

Capacity

<i>MPGM</i>	30,480 kg
<i>Unladen (tare) mass</i>	12,520 kg
<i>Max. permissible load</i>	2,467 kg
<i>Allowable stacking weight</i>	1.8 G • 213,360 kg
<i>Holding time</i>	44 days

Transport options

Transport by land, rail, and sea – over 1000 km

Rail transport:



Our ISO container tank supports multimodal logistics while maintaining cryogenic performance.

Connecting the production and distribution of the future.

With CTT-Cryo Trans Tech, hydrogen transport becomes safe, standardized, and efficient. Our fleet of 20-foot and 40-foot ISO cryogenic containers forms the backbone of modern hydrogen infrastructure, ensuring a reliable path from energy source to end user.



Manufacturing process

High-quality production with advanced, automated equipment

Plant & equipment

- KEY Plant – Automated welding systems
- K-TIG – Advanced welding technology
- DAVI – Sheet and tube bending machines
- MILLER – Reliable welding machines
- EON HD CNC – Precision metal cutting

Each product is carefully manufactured, thoroughly tested, and certified by TÜV NORD, meeting the highest industry standards.

Our specialized insulation is non-transparent and adapts seamlessly to any shape between vessel walls. Its unique structure, combined with a high-vacuum environment, forms over 1,000 ultra-thin layers, effectively blocking nearly all radiation.



Regulatory standards

Multimodal transport compliance and safe operation

Designed and certified to

- Meet EU transport safety regulations (TPED and ADR)
- Comply with European standards for helium pressure vessels (EN 13530)
- Adhere to the ASME code for high-pressure vessels (ASME VIII Div. 1)

Combination of these standards ensures that the tank is safe for multimodal transport (road, rail, and sea), is structurally sound, and can handle the pressures and hazards associated with transporting Hydrogen.



***Connecting the Hydrogen Production and Distribution of the Future
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***Thank you for your interest
in CTT-Cryo Trans Tech.***