Cryogenic steel grades
for liquefied gas storage tanks

CryElso® 9Q
9% Ni steel for LNG storage tanks

Industeel, as the leading supplier of 9%Ni steel plate, is clearly established as a key partner to all the major players in this market:

- Worldwide references
- Exceptional capacity (up to 6000 tonnes/month)
- Full dimensional range
- Reactivity (short deliveries) and flexibility to meet project requirements
- Possibility to include prefabrication of the plates
- Size range up to 3800 mm wide and above
- Plate thicknesses up to 50 mm and beyond
- Thicknesses 5 to 8 mm generally produced at 1500 to 2000 mm width (wider plates can be available)

CryElso® 9Q (<75 mm) / 100 J at -196°C / 80% minimum shear fracture

Typical impurity contents (ladle analysis):
- Phosphorus = 34 ppm
- Sulphur = 7 ppm
- Nitrogen = 37 ppm
- Electric furnace melting for very low phosphorus content
- V.D. process vacuum degassing
- V.D. and T.N. processes for total sulphur removal

Low carbon tough martensite
Extra clean steel, very low phosphorus content
Reproducible and safe mechanical properties

Safe and reliable material for LNG project
Main references list CryElso®9Q
9% Ni steel for LNG and ethylene storage tanks

CryElso® grades are approved by all major cryogenic storage tanks operators, designers and fabricators as well as classification societies: Bureau Veritas, Lloyd’s, TÜV...

Industeel has supplied close to 300,000 tonnes of 9% Ni steel over the last 35 years for more than 170 large cryogenic storage tanks worldwide.

### Country Site Number of LNG tanks = tonnage

- **Canada**
  - Canaport New Brunswick 3 = 6600 t
  - Terasen 1 = 600 t

- **USA**
  - Cameron 3 = 5300 t
  - Cove Point 1 = 1150 t
  - Elba Island 1 = 1800 t
  - Freeport 2 = 3500 t
  - Golden Pass 3 = 5300 t
  - Pascagoula 2 = 3600 t
  - Sabine Pass 5 = 7500 t

- **Dominican Republic**
  - Andres 1 = 1600 t

- **Trinidad and Tobago**
  - Point Fortin 2 = 2300 t

- **Argentina**
  - Buenos Aires 1 = 400 t

- **Chile**
  - Mejillones 1 = 2500 t
  - Quintero Bay 2 = 3700 t

- **Puerto Rico**
  - Peñuelas 2 = 2000 t

- **United Kingdom**
  - Hammerfest 2 = 3400 t
  - Lyse Gass 1 = 500 t

- **Spain**
  - Barcelona 4 = 7400 t
  - Bilbao 3 = 5350 t
  - Cartagena 5 = 8300 t
  - El Ferrol 2 = 4000 t
  - El Musel 2 = 3600 t
  - Huelva 3 = 6000 t
  - Saguato 4 = 8000 t

- **Portugal**
  - Sines 2 = 3400 t

- **France**
  - Fos sur Mer 2 = 3800 t

- **United States**
  - Damietta 2 = 3800 t
  - Elba Island 1 = 1800 t
  - Freeport 2 = 3500 t
  - Golden Pass 3 = 5300 t
  - Pescagoula 2 = 3600 t
  - Sabine Pass 5 = 7500 t

- **Belgium**
  - Ineos Antwerp 1 = 480 t
  - Zeebrugge 4 = 6000 t

- **Bulgaria**
  - Bal-Haf 1 = 2400 t

- **Canada**
  - Canaport New Brunswick 3 = 6600 t
  - Terasen 1 = 600 t

- **China**
  - Fujian 4 = 7200 t
  - Guangdong 3 = 5750 t
  - Ningxia Hanas 1 = 750 t
  - Shandong 3 = 6150 t
  - Zhihua 3 = 5500 t

- **South Korea**
  - Incheon 3 = 4800 t
  - Pyeong-Taek 9 = 17,700 t
  - Samchok 4 = 9200 t
  - Tong-Yeong 9 = 14,100 t

- **Thailand**
  - Ta Phu 4 2 = 3700 t

- **Taiwan**
  - Taichung 1 = 850 t

- **Philippines**
  - Bataan 1 = 1150 t

- **Singapore**
  - EMA Singapore 1 = 1860 t

- **Indonesia**
  - Bintulu 1 = 900 t

- **Australia**
  - North West Shelf 2 = 850 t
  - Pluto 2 = 2700 t

### Legend:
- **Country**
- **Site**
- **Number of LNG tanks**
- **Tonnage**

Several thousand tonnes also delivered for other applications like smaller LNG storage, pressure equipment and shipping tanks.