



LNG Storage

Unparalleled LNG Storage Experience

For more than 60 years, CB&I Storage Solutions has focused on delivering LNG storage solutions safely, on time and with the highest quality standards. We have designed and constructed more than 220 LNG storage tanks on all six major continents – all types of tanks within all types of LNG facilities. With hundreds of patents developed throughout our history across a multitude of applications, our customers know CB&I Storage Solutions is much more than an average storage tank. From the beginning we have been innovators in the LNG industry:

- Pioneered the concept of air raising tank roofs in the 1950s
- Assessed viability of 9% nickel (Ni) steel in cryogenic operation, designed and built the world's first double-wall LNG storage tank, and invented the annular space resilient insulation blanket system in 1958
- Pioneered the use of cellular insulation as load bearing insulation in 1965
- Invented the suspended deck roof insulation system in 1966
- Designed and built the world's first full containment LNG tank in 1986
- Pioneered the patented use of semi-automated austenitic UT to field examine 9% nickel plate steel weldments in 2001
- Set a record for the largest air raised roof at 89.0 m (292 ft) in 2002

We are a recognized leader in the design and construction of LNG storage systems. Many customers draw on our deep knowledge and extensive LNG experience early in a project's development, allowing us to provide input, recommendations and project-specific solutions that deliver greater long-term value.

Leading Technology and Innovative Solutions

We are an active participant in 24 international code committees. We are a leader in the testing and understanding of 9% Ni material properties at cryogenic temperatures. And we offer in-house capabilities unmatched by any other contractor in the industry:

- A welding laboratory and test facility that develops and tests welding processes, equipment and procedures



- A corporate construction technology group that focuses on construction procedures, training and accident prevention
- An Insulation Betterment Center dedicated to the development of improved procedures and customized equipment

In addition, our in-house LNG engineering group can design innovative solutions for the most challenging projects. An example is the unique seismic isolation system that has been incorporated into tank foundations in regions of high seismic activity.

Throughout our organization, every one of our employees is deeply committed to safe work practices, which is reinforced through our award-winning safety program.

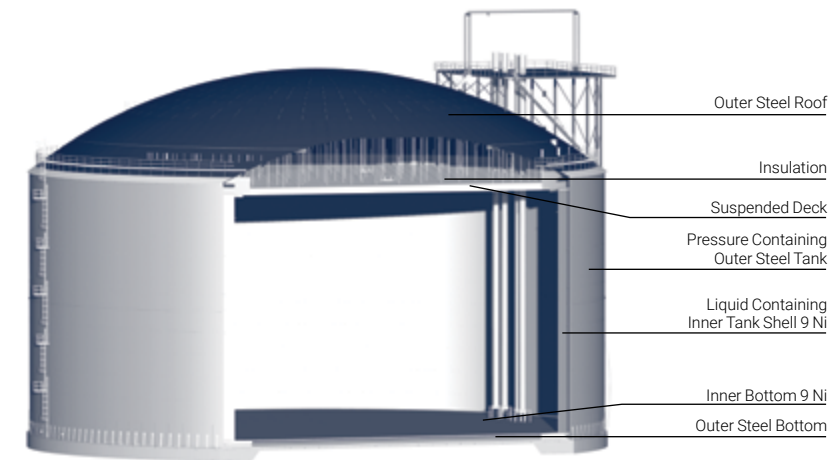
Self-Performance from Start to Finish

Our extensive LNG experience has provided us with the expertise to determine the most cost effective LNG storage solutions for our customers. Whether a single containment, double containment or full containment storage tank, our experienced team of civil, structural, process and construction engineers strives to optimize the entire storage tank project rather than a particular component.

Our integrated EPC resources enable us to self-perform all aspects of the project, from conceptual design to tank commissioning. This translates into low-risk and high-value LNG storage solutions for our customers.

All three tank styles are designed with an inner and outer wall separated by insulation materials. The inner wall must be designed to handle the stored LNG at -160° C (-260° F). The material most often used is 9% nickel steel because this material remains ductile at cryogenic temperatures.

CB&I Storage Solutions has designed and built LNG storage tanks with capacities up to 200,000 m³. No job is too large or too small.

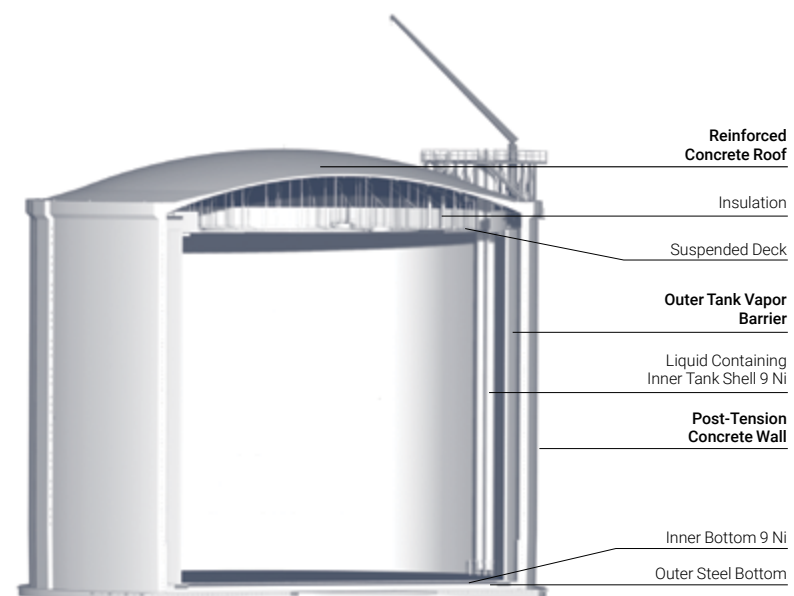
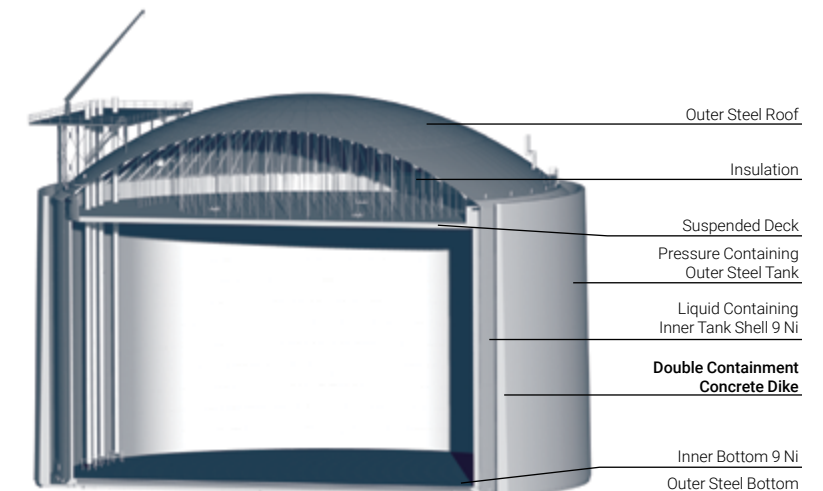


Single Containment LNG Tanks

Ideal when land availability is not an issue, this is the most economical and common solution for LNG storage. We have designed and constructed more than 100 single containment LNG tanks. This type is typically designed with a primary liquid containment open-top inner tank, a carbon steel primary vapor containing outer tank, and an earthen dike for secondary liquid containment.

Double Containment LNG Tanks

This type has a secondary containment steel or concrete dike wall close to the vapor containing outer tank. It is designed and constructed to contain possible loss of liquid from the inner tank, but not to contain product vapor resulting from unlikely leakage. A double containment tank reduces land requirements and can provide additional resistance to external loads.



Full Containment LNG Tanks

Typically designed and constructed as a primary liquid containment open-top inner tank and a concrete outer tank, the outer tank serves as primary vapor containment and secondary liquid containment. In the unlikely event of a leak, the outer tank contains the liquid and provides controlled release of the vapor. Like double containment, this tank reduces land requirements and provides additional resistance to external loads. Full containment is most often utilized on tight sites, when external design events require added resistance and /or when required by regulatory or customer provisions.

CB&I is the world's leading designer and builder of storage facilities, tanks and terminals. With more than 59,000 structures completed throughout our 130-year history, CB&I has the global expertise and strategically located operations to provide our customers world-class storage solutions for even the most complex energy infrastructure projects.

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