



LIQUEFIED NATURAL GAS

TOTAL SOLUTION PROVIDER FOR LNG

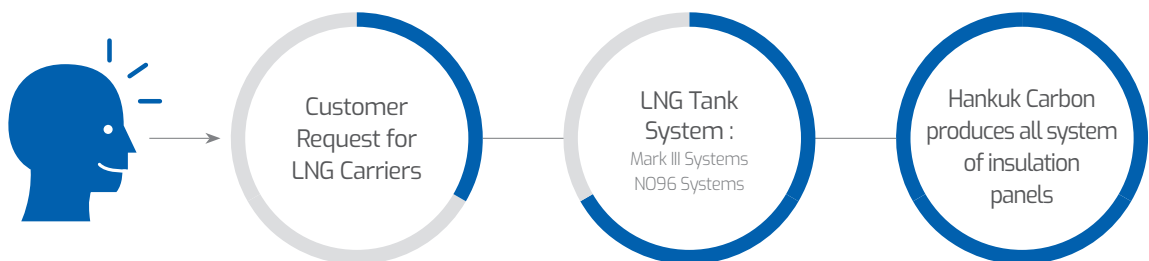


HANKUK CARBON

LNG(Liquefied Natural Gas), the eco-friendly energy is required special insulation method to move and storage at cryogenic temperature, -163°C. Hankuk Carbon has its own technologies to minimized Boil-Off Gas(BOG), and provides high-quality of insulation materials and components to shipyards, storage facilities and power plants around the world.

TOTAL SOLUTION PROVIDER FOR LNG

Customer Needs & Process



Installation Equipment | for GTT LNG CCS

- For insulation panel
- For primary membrane
- For secondary barrier



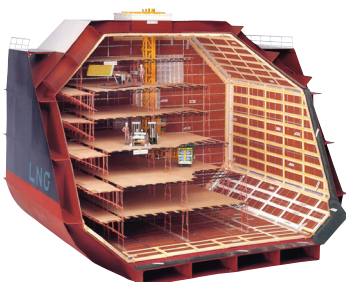
Insulation Materials | for LNG Carrier and Storage tank

- Flat, Corner, TBP, Special Panel
- Adhesive: Mastic, PU-glue, BP glue, PU45 / PU15
- Rigid/Flexible secondary barrier
- Primary membrane
- Glass wool

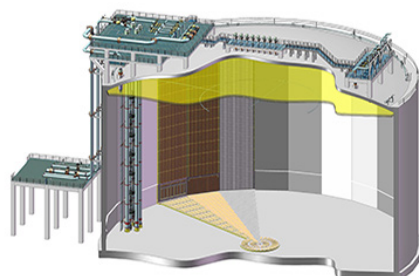


Supervisor for installation | For Installation

- For setting up the installation
- For insulation materials installation
- For secondary barrier installation
- For primary barrier installation
- Test / Equipment commissioning



LNG Carrier



Storage Tank

LNG INSULATION MATERIALS



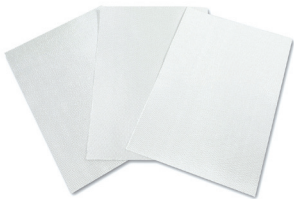
Reinforced Polyurethane Foam

Boil-Off Gas(BOG) is the second largest cost for a LNG charterer, representing 30% of total shipping cost. For your benefit, Our goal is to supply the best BOR and eco-friendly foam for your project.



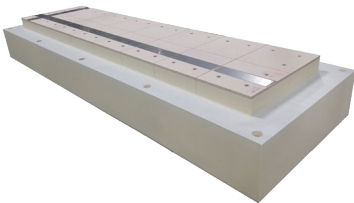
Flexible Secondary Barrier(FSB)

We have two types of FSB such as HFT-2010 and HHT-2015. HHT-2015 is a combination of Aramid and Glass fiber in order to increase tensile strength. As a result, the value of fatigue test is approximately 6 times higher than HFT-2010. We Can customize the size of FSB to reduce any loss at your site.



Rigid Secondary Barrier(RSB)

The main goal of secondary barrier is to prevent any leakage of LNG when the primary barrier(membrane) has a damage due to the sloshing impact. We are the only company which can produce rigid secondary barrier.



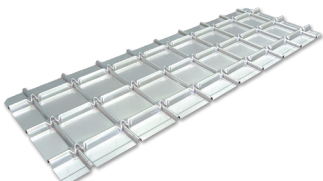
Insulation Panels

We supply various types of LNG insulation panels which can be produced to meet your special needs. Our R-PU foam and secondary barriers(RSB, FSB) greatly improve the insulation performance of IP.



Pipe Insulation

Based on our technologies and know-how, we produce the suitable pipe insulation for your project. We have our own installation team. Thus, you will see the best quality of pipe insulation at your project.



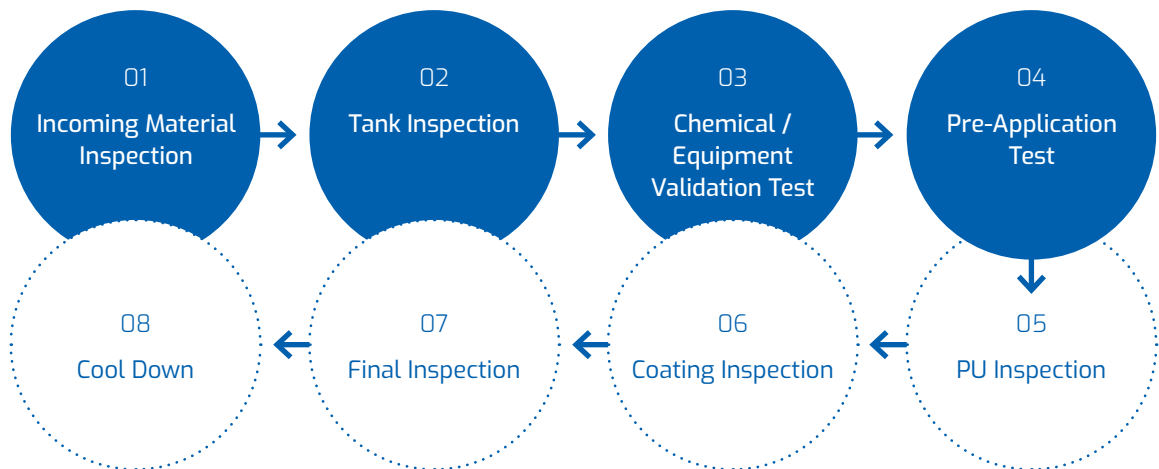
Primary Barrier(Membrane)

Even though, we do not produce primary membrane, we can supply it for your project. You do not need to contact with membrane supplier, you can just contact us.

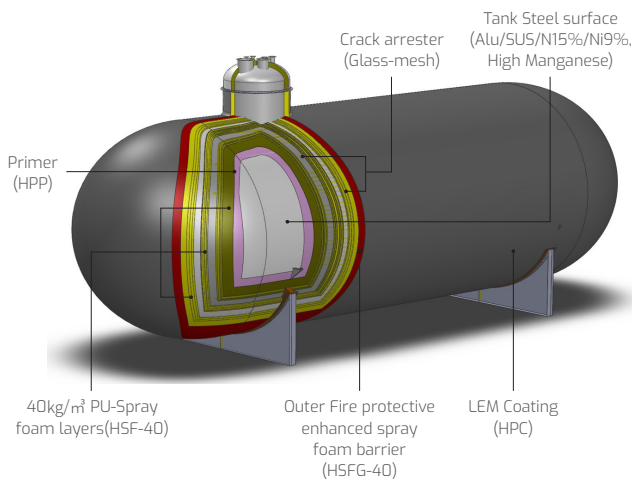
SPRAY FOAM INSULATION FOR LPG/LEG/LNG

- Reduce the application time
- HFC & HFO eco-friendly blowing agent system
- Improved weather exposure resistance during assembly
- No protection needed for outdoor storage of insulated tanks
- Improved insulation shelf-life time
- Seamless operation with enhanced quality
- Streamlined operation with enhanced quality
- Excellent thermal efficiency
- Highly resistant to fire(DIN 4102 Part1, class B2 or higher)
- Minimize the maintenance

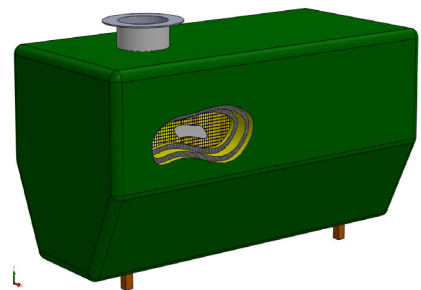
Quality Control and Inspection Policy



Type C Tank Spray Foam Insulation



Type B Type Fuel Tank Insulation



Approval in principle :
HANKUK CARBON's Spray Foam Insulation of IMO
Type B & C - LPG/LNG Cargo & Fuel Tanks



STORAGE TANK SYSTEM FOR LNG

Ground Storage Tank-GTT

Hankuk Carbon is deeply involved in storage tank business. In case of GST(GTT Ground Storage Tank system), we support and supply our total solution to you. Therefore, you only need to contact us to purchase all of the materials and equipments which shall be installed and used in the tank. In addition, one of our staff specially stay on site to control the delivery schedule and check the product quality.



Source : EWC

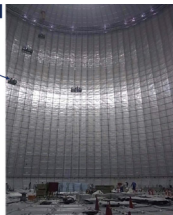
Underground Storage Tank-IHI

In case of IHI Storage Tank system, we developed 10 different density of foams for cost savings. After contract, we carried out a several tests(thermal shock, creep test....) during 2 years to ensure the quality.



Capacity	50,000m ³
Inner Diameter	72m (236ft)
Liquid Height	61.7m (202ft)

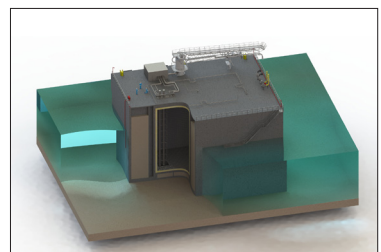
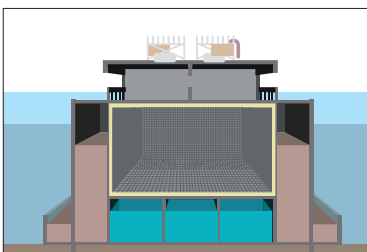
Inside view of 250,000kl tank



Source : IHI

Gravity-Based System(GBS)-GTT

Gravity-Based System(GBS) is one of storage tank system designed by GTT. It is to support the growth in LNG demand and assist the maritime industry in the energy transition. For your successful GBS business, Hankuk Carbon already set up the supply chain to provide our total solution.



Source : GTT

COMPANY HISTORY

In 2001, we began our long journey to become your successful partner in LNG industry. We developed advanced technologies and gained a lot of field experience and based on that, we built a total solution of LNG. Whatever you want, we can carry it out.

1980s – 1990s

- 1984 09 Foundation of Hankuk Carbon
- 1991 11 Foundation of R&D Center
- 1995 07 Korea Stock Exchange, KOSPI IPO

2000s

- 2001 07 Foundation of LNG Division
- 2003 07 Acquired ISO 9001 : 2000 certification
- 08 Acquired ISO 14001 certification
- 2005 02 Expansion of LNG division

2010s

- 2013 06 Achieved 1 trillion won in accumulated sales of LNG division
- 09 Acquired OHSAS 18001 : 2007 certification
- 10 Received Silver Tower, Order of Industrial Service Merit Award by the Korea government
- 2014 11 Received the Minister of Labor Award for Excellent Employees and Management Relationship
- 2015 03 Developed New Flexible Secondary Barrier
- 06 Acquired ISO 29001 for OIL & GAS
- 2016 09 World's first GTT GST system contract
- 2017 12 \$100M Export Monument Award for Hankuk Carbon Co., Ltd.
- 2018 03 Established HC / HAM VINA Co., Ltd
- 2020 12 U\$200M Export Monument Award for Hankuk Carbon Co., Ltd
- 02 Established Hankuk Carbon UK LTD.
- 05 Established Hankuk Global Solution LTD(HGS)
- 12 \$200M Export Monument Award for Hankuk Carbon Co., Ltd.
- 2022 05 World's first GTT N096 Super+ system contract