

**DSI References****Reference Details**

Owner Korean Gas Corporation, Seoul, South Korea +++ **General Contractor** Samsung, Hyundai, Daelim and others, Seoul, South Korea +++ **Subcontractor for tank design and reinforcement** DYWIDAG International GmbH, Munich, Germany

DSI Unit DSI Korea Co. Ltd., Seoul, Korea

DSI Scope Supply of DYWIDAG Post-Tensioning Systems with anchorages and accessories, cryogenic *GEWI*[®] bars; rental of technical equipment; technical assistance

**DYWIDAG Post-Tensioning Systems Secure LNG Tanks****Construction of numerous LNG Tanks in South Korea**

At the beginning of the 1990s, South Korea began to take measures to reduce its dependence on imported coal and oil and to make use of low-emission energy sources. The Korean Gas Corporation, KOGAS, which was founded for this purpose, began constructing the first import terminal for natural gas in 1993. Since then, numerous other import terminals have been built, all of them featuring tanks for interim storage of natural gas, which is delivered as LNG (Liquefied Natural Gas).

Natural gas liquefies at minus 165°C. When liquefying, its volume is reduced by a factor of 600, which allows space saving storage in purpose-built and secured tanks.

These tanks are often constructed as “full containment systems”. LNG is stored in an interior tank made from 9% nickel steel which is further protected by an exterior tank constructed out of prestressed concrete.

The first tanks, which were constructed in the mid 1990s, had a capacity of about 100,000m³ of liquid gas. 10 years later, the tanks' capacity has doubled thanks to a continuous development of technical design and advancements in construction materials. In 2007, construction began on two LNG tanks that are to have a storage volume of 200,000m³ of liquid gas each.

The specific physical properties of LNG pose extremely high requirements on the materials used. Low-temperature impact resistance is of extreme importance. That is why the cryogenic suitability of DYWIDAG Post-Tensioning systems has been and continues to be successfully proved in regular tests and controlled within DSI's internal quality management system.

DSI Korea has delivered high quality DYWIDAG Strand Tendons for more than a decade, including anchorages and accessories as well as cryogenic *GEWI*[®] bars in different diameters and sizes. The prestressing jacks required for installation as well as other technical equipment are also supplied by DSI Korea. Furthermore, DSI Korea offers comprehensive counselling and technical assistance during installation on site.

DYWIDAG's Post-Tensioning System has been successfully employed in more than 20 LNG tanks in Korea. This development indicates that DSI Korea will continue to operate as a reliable supplier of Post-Tensioning Systems for the new LNG tanks that have been planned within the scope of the country's national resource strategy.



for more information please call: + 49.89.309050.200 or fax: + 49.89.309050.252 or e-mail: DSI Munich