

# **Integrity inspection of LNG carrier cargo tank by leak test**

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As LNG demand grows, the safety of the LNG carrier is also an important issue. LNG is stored and transported in a liquid state, and since the temperature drops to -162°C when stored, the integrity of the LNG carrier cargo tank is very important, and for this reason it is necessary to determine the location of the leakage as well as to determine whether there are any leaks in the LNG carrier cargo tank. LNG is generally transported in specially designed vessels in the form of double hulls and double barriers to avoid the risk of damage or leaks from the cargo tank. To test the integrity of LNG carrier cargo tanks, there are several special leak test techniques specifically for finding leaks and leakage location. Leak test is carried out to check the integrity of the insulation space and inter barrier space of the LNG carrier cargo tank, and to check the integrity of all welds in the cargo tank. The integrity of the LNG carrier cargo tank was conducted by applying the helium leak test, ammonia leak test, pressure change leak test, and vacuum box leak test. These tests can verify the safety of the LNG carrier cargo tank and the safety of LNG carrier could also be increased.