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Outokumpu's proprietary Supra 316plus enables a revolutionary LNG tank container

Finnish liquefied natural gas (LNG) tank manufacturer LNGTainer has today launched a new tank which brings together two innovations – LNGTainer's game-changing tank container and Outokumpu's unique austenitic stainless steel grade, Supra 316plus (EN 1.4420, UNS S31655).

"The most revolutionary aspect of LNGTainer's new tank container is that the structure includes a light, flexible inside tank and outside pressure vessel. For the light inside tank, we chose Outokumpu's Supra 316plus steel grade. With the new patented structure, we could decrease the weight of the tank by 30% and increase its capacity by 15%. Because the weight of the inside tank is significantly less than in competing tanks, the time for cooling off the inside tank is considerably shorter. Light inside tank cools off faster for transport," says CEO Tom Sommardal at LNGTainer.

LNGTainer first considered using aluminum in the inside tank, while Outokumpu offered Supra 316plus because of its properties. Supra 316plus has relatively better low temperature properties compared to other similar materials. In fact, its strength and ductility only improve as the temperature drops down to the lowest measured cryogenic temperature of -196°Celsius. LNG is transported in a temperature of -164°Celsius and then warmed back to gas when delivered.

"By having excellent low temperature properties, Supra 316plus enables thinner gauges, which translates as savings in weight, fuel, energy costs, as well as a lower carbon footprint. LNGTainer's new tank container is a real breakthrough, and it demonstrates the best use of stainless steel properties in extreme conditions," says Product Manager Juha Kela at Outokumpu.

Supra 316plus has a higher chromium and nitrogen content, and less nickel and molybdenum. Thanks to the optimized composition, the grade has good corrosion resistance and its performance is superior to conventional steel grades when the temperature drops down to cryogenic temperatures. In addition, the price of the grade is competitive and stable.

For more information:

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Outokumpu Group

Outokumpu is the global leader in stainless steel. We aim to be the best value creator in stainless by 2020, through our competitive edge of customer orientation and efficiency. The foundation of our business is our ability to tailor stainless steel into any form and for almost any purpose. Stainless steel is sustainable, durable and designed to last forever. Our customers use it to create civilization's basic structures and its most famous landmarks as well as products for households and various industries. Outokumpu employs 10,000 professionals in more than 30 countries, with headquarters in Helsinki, Finland and shares listed in Nasdaq Helsinki. www.outokumpu.com outokumpu.com/stainless-news choosestainless.outokumpu.com