Four new Terntank vessels coated with MarineLine

Chemical tanker owner and operator Terntank recently welcomed another new vessel into its fleet, the 15,000 dwt 'Tern Ocean', built at AVIC Dingheng Shipbuilding in Jiangdu, China.

This ship, the fourth newbuilding in a series of eco-friendly chemical/product tankers built under BV class at AVIC, joins its sisterships 'Tern Sea', 'Ternfjord', and 'Ternsund' in the growing Terntank fleet.

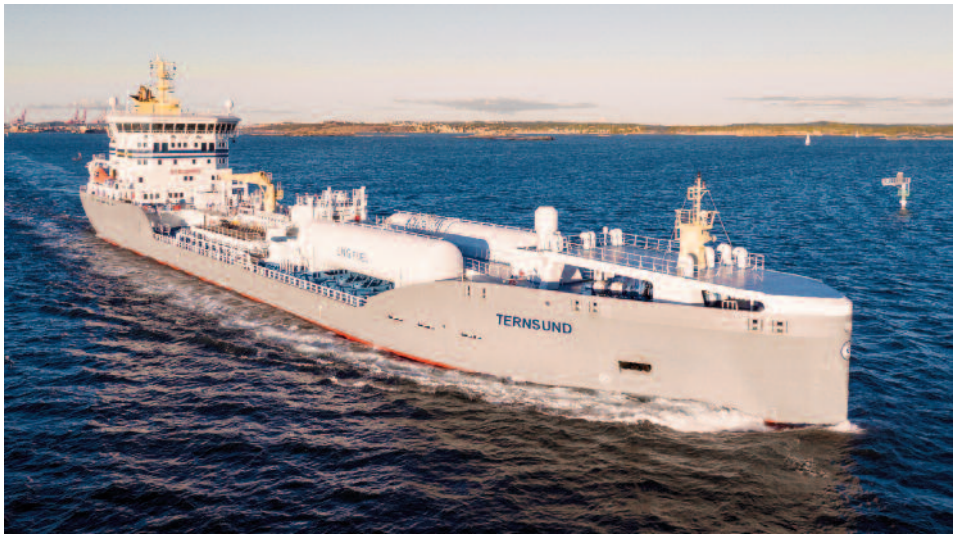
These new energy efficient LNG-powered vessels operate in compliance with IMO Tier III regulations, trading in the Baltic Sea region, a designated Emissions Control Area (ECA). They are the world's first LNG-fuelled newbuilding chemical/product tankers.

"We are proud of our company history as an innovator in the maritime trade," said Tryggve Möller, Terntank Ship Management managing director. "These new ships continue our tradition of employing many different and advanced technologies, with a number of 'firsts' in the industry."

The Terntank ships were developed through an EU project called 'Into the Future – Baltic SO2lution' as a co-operative venture between Terntank and several partners under the Zero Vision Tool (ZVT) platform that envisions the higher building cost for vessels are offset with reductions in port costs and fairway dues, because of environmental advancements.

Each of Terntank's four new 147 m length tankers are based on an advanced twin hull design from Rolls-Royce. The ships are powered by a newly developed Wärtsilä 2-stroke, low pressure dual-fuel main engine that drives a large propeller to deliver service speeds of up to 14.5 knots. With the engine operating in gas mode, the ships are Tier III compliant.

Möller explained, "The new ships yield considerable fuel cost savings. Conventional product tankers of this size consume on average bunker fuel of 22 to 25 tonnes per day, however, our newbuildings use just 14 tonnes per day, making them the most modern and fuel efficient tankers in the industry."



Terntank's four newbuildings were coated with MarineLine.

In August, 2016, Terntank's first new ship in the series, 'Ternsund', off-loaded naphtha and gas oil cargoes in at Rotterdam, and was cooled and bunkered with LNG at the Dutch port, the first time a sea-going vessel took on the clean-burning fuel.

STS bunkering

The LNG tank cooling and bunkering culminated in a major event for Terntank, with media, customers, suppliers, industry and government officials, the ship's crew, and representatives from the Chinese shipyard all attending the Port function.

The LNG tank cooling process took about 18 hours taking down the ambient temperature of the tanks at +20 deg C to an operational temperature of -162 deg C for the bunkering, which was undertaken by Shell LNG. It was the first time that a cryogenic fuel had been ship-to-ship bunkered, another first.

The Port of Rotterdam Authority said Terntank was also the first operator to take advantage of a 10% discount on seaport fees available to LNG-fuelled ships called the 'LNG bunkering incentive'. The Port Authority is using this development to position Rotterdam as a major European LNG hub for the future and promote the transition from fuel oil to cleaner LNG as a shipping fuel.

Strong MarineLine relationship

Terntank first employed the patented MarineLine cargo tank coating system from Advanced Polymer Coatings on its 11,259 dwt chemical tanker, 'Ternvind' in 2008.

Möller said, "MarineLine has proven to be the best tank surface coating for cleaning and easily switching cargoes. So we changed from epoxy and phenolic epoxy tank coatings and started specifying MarineLine for all our vessels since that time, including the four new sisterships. We consider MarineLine the best cargo tank coating technology on the market today."

MarineLine fits in perfectly with the eco-friendly nature of Terntank tankers. Typically, tank cleaning takes an extensive amount of

Terntank Tryggve Möller.

time and effort but due to MarineLine's non-absorption, low surface energy and smooth surface features, tanks are quickly and easily cleaned, with some cargoes only requiring venting. This consumes much less bunkering fuel for cleaning, thus lowering emissions, while using fewer cleaning chemicals to reduce cargo slops, both further positives for the environment beyond the LNG benefits of the ships.

Eco-friendly chartering

Environmentally conscious chartering policies for tankers continue to shape the market, as charterers stipulate certain environmental requirements before fixing a vessel. This is a conscientious effort by charterers to reduce emission levels in the Baltic Sea.

Because the new Terntank ships have advanced technology and use LNG as fuel, there are significant environmental advantages compared to conventional tankers using low-sulfur marine gas oil. LNG usage reduces emissions of SOx by 99%, NOx emissions by 97%, CO2 by 40%, and particulate matter by 99%.

"When charterers see these positive numbers, they want to enter into long-term timecharters with Terntank," Möller claimed. "Our analysis shows that LNG-fuelled tankers are right for the industry in the long term by minimising the environmental impact."

Möller pointed out that Terntank has always been an industry pioneer. "We were the first company to build a double hull tanker for Scandinavian trades in 1974. We like pioneering environmental solutions because this is our trade and the Baltic is our backyard. These four new vessels with MarineLine coated cargo tanks continues that spirit of innovation.

"The main reason we like MarineLine is because we think taking care of the environment is going to continue to be a key requirement for the shipping industry in the future and we don't want to do a lot of tank washing, as we are often changing parcels. We carry Methanol especially, so we want to easily clean the tanks after discharge. MarineLine has a smooth hard coating surface that handles Methanol and can then switch to other cargoes," Möller explained.

He added that charterers accept MarineLine-coated ships very easily, and like having the versatile coating as an option for sequencing different types of cargoes.

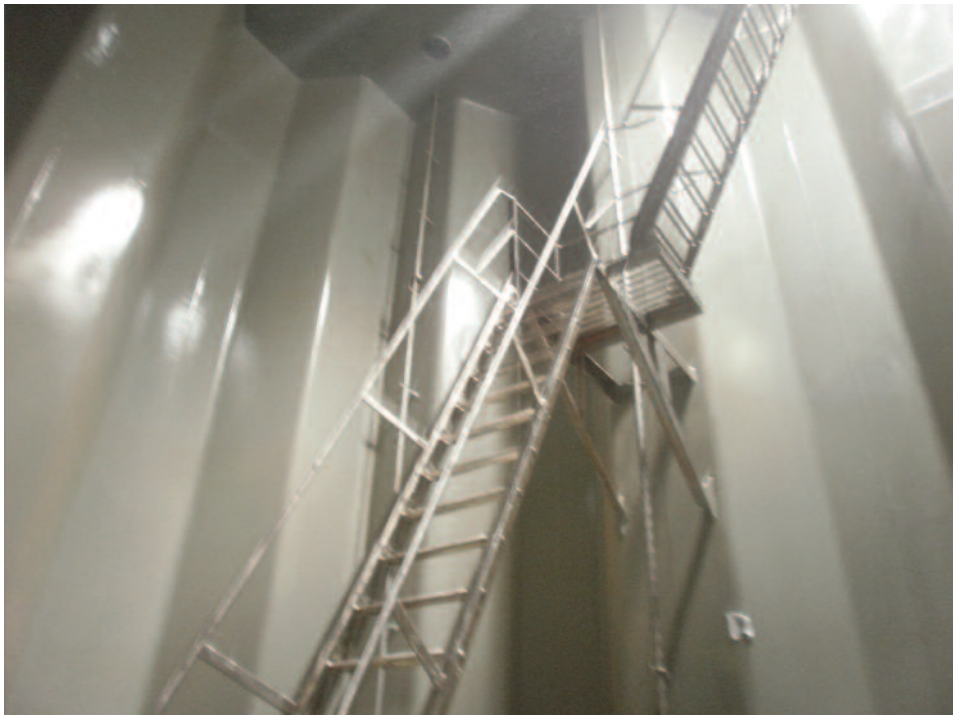
"Terntank has been very satisfied with the support from Advanced Polymer Coatings inspectors who worked at AVIC Shipyard during the tank preparation, coating application, and heat curing of our four new ships, and also the management of the company," Möller said.

Thus far, all four newbuilding vessels are operating well with the MarineLine coating from early inspections by Terntank personnel. Möller said, "When Terntank builds new tankers in the future, we will again look to MarineLine as our cargo tank coating because of its ease of cleaning and excellent versatility to handle changing market needs. We believe MarineLine will continue to provide a good return on our investment." TO

A fleet that continues to grow

Back in 1958, Terntank started as a one-ship company. Today, it operates a fleet of modern chemical/product tankers in the 8,000 to 15,000 dwt range.
Current fleet -

Name	Built	DWT	CBM	Cargo tank coating
TERN OCEAN	2017	15,000	16,559	MarineLine
TERN SEA	2016	15,000	16,559	MarineLine
TERNFJORD	2016	15,000	16,559	MarineLine
TERNSUND	2016	15,000	16,559	MarineLine
TERNVIND	2008	11,259	12,187	MarineLine
TARNBRIS	2007	11,288	12,208	Phenolic Novolac Epoxy
TERNHOLM	2005	14,825	15,808	Epoxy
TERNVAG	2003	14,796	15,808	Epoxy
TERNHAV	2002	14,796	15,793	Epoxy
TERNVIK	2001	14,796	15,808	Epoxy
TARNDAL	1998	8,269	9,007	Phenolic Epoxy
TARNFORS	1998	8,245	8,988	



With MarineLine, tanks are quickly and easily cleaned.