

## Launching of the largest double hull tanker ever built in Germany

On **Saturday, March 14th, 2009 11 a.m.** newbuilding **S 280**, a **43.000 tdw / 52.000 m<sup>3</sup> Double Hull Tanker for Oil and Oil Products with Ice Class E3**, will be launched at LINDENAU Shipyard in Kiel-Friedrichsort.

The newbuilding which has been ordered by the shipping company **German Tanker Shipping GmbH & Co. KG, Bremen** is a modified, optimized and enlarged sister vessel of our new building S 275, TMS "SEAMARLIN". With this the newbuilding is the largest double hull tanker built in Germany and the first tanker being constructed and built according to the new "Common Structural Rules". This vessel is a further development of the 32.000 tdw-class built for German Tanker Shipping GmbH & Co. KG with several outstanding innovations, setting new benchmarks for the environmental, economic and safe transport of oil and oil products at sea.

The vessel is characterized by the following technical details:

Classification: GL  100 A5 E3 CSR Oil/PRODUCT TANKER ESP VEC  
COLL 3 ERS  
 MC E3 AUT INERT

### Technical data:

Length overall:	approx. 199,53 m
Length between perpendiculars:	190,70 m
Breadth moulded	32,20 m
Depth to main deck moulded:	17,05 m
Draught (draft):	10,00 m
Draught:	11,00 m
Deadweight:	43.000 t
Cargo tank capacity 100%, incl. slop tanks	51.770 m <sup>3</sup>
Main engine output:	11.200 kW
Speed at 10,00 m draught and 8.200 kW:	15,50 kn

The newbuilding will be christened and delivered to the owner in June.

The above mentioned innovations are described in the following:

The newbuilding sets new standards for the safe, environmental friendly and economic transportation of oil and oil products at sea.

1. Together with the ship owners we optimized the **ship lines**, which show an **optimized load/volume ratio** at a maximal draught of 11 m and PanMax-breadth of 32.20 m.

**Extensive line developments** with CFD-methods were achieved. On this basis model tank tests were realized, where not only resistance and propulsion but moreover sea-keeping tests and ice-keeping tests have been executed.

The newbuilding has an **extremely favorable speed/power ratio**. This results into a **low fuel consumption** at relatively high speed.

2. In the design of the **fore-ship**, an optimized **sea-keeping capability** was carried out, both in relation to structural stresses and loss of speed in a seaway. Compared to the smaller newbuildings, the number of "**deck-wetness events**" was **reduced significantly** for the new design. Furthermore the structural stresses on the fore ship were reduced by almost 40% by optimizing fore-ship lines, compared to previous newbuildings.
3. Because of the **specially designed fore ship** the new type will be able to operate with **high speed also in ice**.
4. A **high manoeuvrability** will be achieved due to the efficient and powerful bow thruster and the highly efficient full-spade profile rudder.
5. The newbuilding is the first German built tanker fulfilling the new common structural rules (CSR) of the classification society GL and will **fulfill the national and international rules** for the exchange of ballast water. Furthermore the main engine and the three auxiliary engines will fulfill the demands of the **MARPOL ANNEX VI** regulations concerning the **emission of NOx and Sox**. The vapor return system, sewage treatment, the usage of an especially environmental friendly, i. e. not ozone depleting coolant, waste treatment on board, the usage of especially environmental friendly fire fighting agents, compliance with minimum of bilge water oil residues as well as an anti-fouling paint system free of TBT are further environmental protecting properties of the newbuilding.
6. The newbuilding will be built with a **complete double hull in the cargo area and in the area of the fuel oil tanks** in the engine room according to the latest MARPOL rules. This double hull will increase the safety against damages with oil spills in case of grounding or collision. The vessel will receive the **safety class notation COLL 3** according to a **four-time higher** collision resistance compared with a single hull tanker.

7. The cargo space of the double hull tanker consists of 2 x 5 cargo tanks as well as 3 slop tanks which are separated from each other by **volume longitudinal and volume transversal bulkheads**. This will lead to **absolute smooth tank surfaces** with the following advantages:
  - short discharge time
  - minor cargo residues
  - double safety against cargo contamination
  - short tank cleaning time
8. The **optimized design** of the hull with respect to low vibration and high strength durability as well as **high-grade coating** of the whole vessel – especially of the cargo and water ballast tanks – will guarantee a safe operation and a high economic life-time of the ship.
9. The newbuilding will be built for the transportation of **oil and oil products**.
10. A **high cargo flexibility** will be achieved by different cargo tank sizes as well as a high cargo tank volume / deadweight ratio.
11. The newbuilding will be equipped with an **computer based cargo monitoring and indication system** in the cargo control room with the following functions:
  - cargo- and slop-tank level indication with tank radars
  - cargo temperature indication and monitoring with three sensors arranged at different heights
  - cargo tank pressure monitoring with given alarms
  - manifold pressure monitoring with given alarms
  - draught measurement system with 4 sensors
12. The heating of the cargo is done by individually adjustable **heat exchangers for each tank with temperature indication** in the cargo control room.
13. A **central, electro-hydraulic operated remote control system** for the cargo pumps, cargo valves, ballast pumps and ballast valves is installed in the cargo control room.
14. The **powerful electric driven deep-well pumps** will enable a total cargo separation, very short discharge times (approx. 12 h) and – combined with the **high efficient tank washing system** – very short times at the terminals.
15. The new developed separate, fixed installed **Emergency Discharge System** enables the complete emergency discharge of the cargo under closed condition in case of a cargo pump failure.
16. The installation of a **stripping and super stripping system** will ensure an equal-zero unloading of the cargo tanks.

17. The newbuilding will be equipped with an **online - loading computer** which is connected to the integrated cargo monitoring and indication system as well as to the tank level measurement system for ballast and engine room storage and consumable tanks. This loading computer enables the crew to control online the longitudinal strength, intact and damage stability during loading and discharging. Furthermore it is possible to simulate the loading and discharging procedure, to calculate loading conditions for pre-planning and to check each loading condition.
18. High quality equipment mainly supplied by European manufacturer will guarantee **maximum reliability and low maintenance and service costs**.
19. The engine room is optimized to the **economical arrangement** of all aggregates including the pertaining pipes, cable trays and air ducts. All workplaces are designed according to **ergonomic aspects**.
20. The **integrated engine control system** and **power management system** of auxiliary diesel engines and PTO-generator will ensure an economical and safe operation of the engines. In addition to the manual control of the electrical power supply in the engine control room, the wheelhouse will be fitted with a work station which enables the nautical crew to choose the most economic form of power supply according to the respective operation conditions of the vessel using **five different programmed modes**. A programmable logic controller (PLC) automatically will execute all necessary measures for the change of the operating condition.
21. The installation of an **integrated bridge-system** with two anti collision radar systems in combination with the chart and track pilot will represent the **highest standard of safe navigation** and enables easy pre-planning of the course and constant monitoring of the same. An integrated communication system (SATCOM-System) which meets the most modern and technical demands will be installed for the internal and external communication.
22. The **integrated navigation system** of this newbuilding will be equipped with an **Automatic Identification System (AIS)**. The Automatic Identification System supports the crew and the traffic control centers with reception of detailed information of the traffic, e. g. heading, speed and distance to other ships as well as information about their cargo. These data are shown on the radar or chart pilot. A transponder transmits the ship-born data which were received by the shipping traffic and control centre on shore.
23. The **Voyage Data Recorder (VDR)** stores all important nautical, technical and safety data of the ship as well as the wireless communication and communication on the bridge. In addition, the VDR can be used for crew training and operational analysis.

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Enclosure: Type sketch (1 page)