

# M/V FIDELIO



The LCTC (Large Car Truck Carrier) m/v FIDELIO has a capacity of 8,000 cars or a combination of 3,484 cars and 468 buses. With her 227.8 metres this capacity makes her one of the largest car carriers in the world. The vessel is built to the highest class of Lloyd's Regis-

ter of Shipping with the following designations: +100 A1 Vehicle Carrier, Movable decks, "deck no. 1, 3, 5 and 8 strengthened for Roll on Roll off cargo" +LMC, UMS and IWS.

## TECHNICAL SPECIFICATIONS

Length over all	227.8 m	Capacity deck area	67,300 m <sup>2</sup>
Beam, moulded	32.26 m	Capacity of car units*	8,000
Air draft	51.98 m	Capacity of cars/buses	3,484/468
Height to upperdeck	34.7 m	Engine	B&W 7S60MC-C
Draft, design/max	9.5/11.3 m	Complement	33
Deadweight at maximum draft	30,137 t	Built	2007, Daewoo Shipbuilding & Marine Engineering, DSME, Korea
Gross Tonnage	71,583	Call sign	SLKR
Net Tonnage	33,546	IMO Number	9332937
Stern ramp width	9.5 m	Flag	Swedish
Stern opening height	6.5 m	Owner	Wallenius Lines AB, Sweden
Stern ramp capacity	240 t	Operator	Wallenius Wilhelmsen Logistics
Number of car decks	13 (of which 5 are movable)		

\* RT 43 units (one RT43 gross unit  $\approx$  8.4 m<sup>2</sup>)

### Deck and Ramp system

Heavy cargo units are loaded on the strengthened 1st, 3rd, 5th and 8th decks. Decks no. 2, 4, 6, 7 and 9 are divided into liftable sections allowing a variable cargo mix. These deck sections are hoisted and lowered by means of a mobile deck-lift.

The vessel has two loading ramps located on starboard side – one perpendicular side ramp and one stern quarter ramp arranged at a 27° angle to the centre line to allow for simple operation of long vehicles.

Deck no. 5 is the general entrance deck, however the 6th may also be accessed via the side ramp permitting two separate cargo flows during loading and discharging.

### Anchoring/Winches

The deck machinery consists of two combined anchor/mooring winches and six conventional mooring winches, two of which are placed on the forecastle and four on the poop deck. There is a provision crane on upper deck with a capacity of five tons for bringing supplies and spare parts.

### Cargo Ventilation

Fans are distributed along the vessel on upper deck providing good ventilation during loading/discharging. In the main holds air can be changed at least 20 times per hour.

### Machinery

The engine room installation meets the requirements for the class notation Unattended Machinery Room (UMS) which also means the main engine can be remotely operated from the bridge or the engine control room. The main engine is a B&W 7S60MC-C directly reversible marine diesel with constant pressure supercharging and a maximum output of 21,490 BHP at 105 RPM.

A fixed propeller with a high efficiency flap rudder makes up the propulsion and steering arrangement. In addition a bow tunnel thruster with a thrust force of more than 30t is installed.

In a separate engine room compartment there are two 450V, 60 Hz, 1,700 kW AC-generators installed each powered by a STX-MAN-B&W diesel engine, type 9SL21/31. In addition the vessel is equipped with a 1100 kW shaft generator and an emergency diesel generator with a capacity of 215 kW.

### Navigational Equipment/Bridge

The wheelhouse design, including bridge wings, is of totally enclosed type and fully air-conditioned and allows for a 360° view. A modern Integrated Navigational Console, INC, with Automated Navigation and Track keeping System (ANTS) and an electronic chart-system (ECDIS) together with radars with anti-collision computers (AR-PAs) makes this Pilot/Co-pilot main console arrangement well adopted for the demanding work of operating in high traffic areas. This complete bridge lay-out is the result of several external and in-house ergonomic studies.

The radio equipment is fitted with satellite communication (Inmarsat B+C), GSM and fulfilling the Global

Maritime Distress and Safety Systems rules (GMDSS). Possibility for internet communication through installed VSAT-system is available for the entire crew.

### Interior

The accommodation is located on upper deck and bridge deck, far away from the engine room and has a unique layout with a two store atrium and a top sky light. Much effort has been put into providing good common spaces with high standard interior design and extra sound insulation between the cabins. Bunks are provided for a complement of 33 persons.

The Tally-office is located on the entrance deck (dk. 5) close to the stern ramp.

### Fire safety and life saving arrangements

The vessel is equipped with portable fire extinguishers and a fire main with hydrants. Close to each hydrant there is a hose and nozzle. Additionally the cargo holds and engine room is equipped with a CO<sub>2</sub>-system of "total flooding type". A fixed local application fire extinguisher system of water mist type is installed for protection of main and auxiliary machinery, boiler, incinerator and fuel oil purifiers.

The free-fall life boat, capable of carrying 38 persons, is located aft and the 7.5 m water jet driven Rescue Boat just behind the portside bridge wing. There is also four 16-people life rafts and in addition one survival-suit for each crew member.

### Environmental performance

Compared to older designs reduced emissions by over 20 per cent per transported unit is achieved by e.g. increased cargo capacity adopting a single pillar design. The twisted leading edge flap-rudder reduces resistance with up to 4 %.

A "State of the Art" ballast water treatment system, Pure Ballast, fulfilling IMO's "Convention on Ballast Water Treatment" is installed.

Engines with improved combustion have resulted in very low NOx emissions, well below the current international requirements for both the main engine and the auxiliary engines.

The vessel has an effective Marinfloc Bilge Water Flocculant Plant system fulfilling MARPOL 73/78 Annex 1 including a White Box for computerised logging.

A Green Passport, as described in the IMO's "Guidelines on Ship Recycling", 2003, is issued by Lloyds Register providing information on all materials and substances known to be potentially hazardous. Biodegradable oil is used in all hydraulic systems and in the sterntube seal. Systems for waste sorting and recycling are implemented. The use of chemicals has been reduced to a minimum and the chemicals used are approved according to the strict requirements in our "white list".

Electronically controlled cylinder oil lubricators have reduced the use of cylinder oil to a minimum.