

THE NAVAL ARCHITECT



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1997

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New Italian-built ro-pax ferry for the Irish Sea

Cantieri Visentini has delivered the first of two interesting 22-knot designs for a Norse Irish Ferries charter, featuring what is believed to be a unique hull-form.

MERSEY VIKING is the first of two new Italian-flag ro-pax vessels built at Cantieri Visentini located just south of Venice on the Po delta. The vessels are owned by one of the Visentini family companies, Levantina Transport, and long-term chartered to Norse Irish Ferries (NIF). The *Mersey Viking* was delivered in late July and will be joined by her sister, *Logan Viking*, this month; they offer a new level of service for both passengers and freight on the Liverpool - Belfast service. *Mersey Viking* is by far the largest vessel serving Northern Ireland, adding extra capacity to an already overcrowded market. An interesting comparison can perhaps be made with the *Norse Mersey*, completed in 1995 by the same yard for the same charterer, and on which we reported favourably in our November 1995 edition, page E599.

While Norse Irish already reports a high level of occupancy on the overnight sailings, the 22-knot service speed will permit the duo to make a daily roundtrip. When both are in service, three daytime sailings during the week will be scheduled but this will be boosted to six when the long overdue Mersey river ro-ro berth finally is completed next summer.

Typical of her Italian stock, *Mersey Viking* departs from the boxy shape seen on many contemporary ro-ro and ferry designs, with a sharply raked forward accommodation and unusual funnel aft. With an overall length of 186.0m and 25.6m beam, she is the largest vessel to be built so far by the productive Visentini yard. Like *Norse Mersey*, she is designed by the Trieste-based naval architectural consultancy NAOS, and the ro-pax combination is likely to be a very popular ship type in the coming years, acting as a useful complement to the fast ferry revolution.

Up to 2300 lane metres of freight can be

A wide stern ramp gives direct access to the main deck (right) and to the open upper deck (left). The lower hold is accessed by a long fixed ramp with a flap leading to the car deck on the way down.



The 8000dwt *Mersey Viking* is another refined ro-ro ferry from the Visentini shipyard in Italy. A sister ship is scheduled for delivery this month.

loaded on three decks. The 14.0m long by 16.0m wide Navalimpianti stern ramp gives direct access on the portside to the wide fixed ramp leading to the upper deck as well the starboard side into the main deck. The fixed ramp to the upper deck is 9.2m wide permitting two way traffic. At the widest point of the upper deck, there is space for eight traffic lanes. A clear height of 4.8m is available for vehicles parked under the accommodation.

The main deck has a clear headroom of 4.9m and is reached via the starboard side stern entrance. As on earlier Visentini vessels such as *Dana Futura* (*The Naval Architect* February 1997, page 39), the engine casing does intrude into the cargo space but Visentini has chosen to locate the engine control room in this area at main deck level. A total of 62 x 13.6m trailers can be loaded on the main deck.

An end-hinged watertight cover supplied by

Navalimpianti, located on the starboard side, can be opened to reveal the fixed ramp leading down to the car deck and tanktop. Up to 100 cars can be parked on the 1.8m high deck and 19 x 13.6m trailers on the 4.5m high tanktop. The side-hinged watertight doors at the forward end of the deck add only two trailers to the capacity but, when open, they improve vehicle turning areas which would otherwise be very constricted at the forward end of the internal ramp.

The fixed car deck has capacity for up to 100 cars and is reached via a flap which forms part of the internal ramp. The 1.8m free height is adequate for trade cars but not for passenger cars where a headroom of more than 2m is required - passengers will need to take care to avoid striking their heads on the overhead beams. Also, if passenger cars were to be parked in this area, they could not be loaded

An unusual feature (to meet UK MSA requirements) at the forward end of the double-skinned lower hold is this pair of side-hinged watertight doors. When open, the turning area for trailers is much improved.





The forward end of the superstructure and the bridge features a rare sculptured look.

last or discharged first, a considerable time being needed to clear cargo on the main deck before opening the rampcover. Access to the passenger decks is provided via the portside lift and stair casing.

The three-level accommodation block is located forward and here are amenities for a maximum of 330 passengers. On the restaurant deck, the aft entrance hallway incorporates an information desk and leads to a small slot machine room and a conference lounge for up to 36 persons. A small shop is located adjacent to the ship's office as well as an area equipped with 36 reclining pullman seats.

The forward area of this deck incorporates a free-flow restaurant - all meals being included in the ticket price. A separate TV bar/lounge, family room and drivers' lounge complete the public facilities. The light-coloured marble floor coverings reveal the *Mersey Viking's* Italian heritage. On the passenger deck above, 72 x 2/4 berth cabins, typical of contemporary passenger/vehicle ferry design, have been installed, all with private facilities. On the bridge deck, 22 single cabins and 14 double cabins will be mainly occupied by the officers and crew. The present complement of 32 includes a wide range of nationalities. All public rooms and cabins have been outfitted by GSAllestimenti, of Ancona. Lifesaving equip-

ment comprises four Harding 62-person lifeboats complemented by a number of davit-launched liferafts.

With the passenger car deck located beneath the main deck, internal passenger access has to be specially considered. Having no centre casing, the 12-person Sele lifts are located on both port and starboard sides of the hull; the portside lift and stair casing begins at the car deck while the starboard lift and stair casing connects the upper vehicle deck with the accommodation. These casings intrude into the parking areas but there are few other practical solutions for a vessel with forward accommodation.

Unique hullform?

Mersey Viking's hullform is a believed to be unique. It is a combination of two small skegs and free-flow form, featuring short exposed shafts and streamlined brackets with no centreline skeg. Having been tested extensively at an East European test tank, the hullform offers the advantages of the twin-skeg form, permitting the engines to be located further aft, without drawbacks such as a tendency to higher vibration levels.

Having a comparatively low block co-efficient, a trial speed of more than 24 knots was achieved on an output of 2 x 7800kW. The two Wärtsilä 8R46 main engines drive a pair of

4.8m diameter Wärtsilä-Wichmann propellers via single-input / single-output vertically offset Valmet gearboxes. Each gearbox is fitted with a 1000kW shaft generator complementing a pair of 1070kW Caterpillar 3512-powered gensets. Occupying considerable space within the casing at main deck level are two Bono exhaust-gas boilers each having a capacity of 1250kg/h of steam at 8bar; these are complemented by a separate Bono oil-fired boiler. A pair of Bot rudders are fitted with Frydenbø rotary-vane steering gear, and forward is a pair of 680kW Berg bow thrusters. A pair of Fincantieri fin stabilisers has been fitted for passenger comfort, given the comparatively high service GM.

The damage stability standard fully complies with all the latest IMO requirements, and in all damage cases, the freeboard is greater than 2m so no extra fixed or folding bulkheads are required on the main deck. The lower hold has been incorporated between B/5 longitudinal bulkheads but the vessel is not designed according to the alternative A.265 rules. However, the UK Marine Safety Agency has insisted that the flooded lower hold be included in the damage calculations, requiring watertight folding doors to be fitted at its forward end, as already explained.

A negative effect of the high freeboard can be clearly seen when the vessel is berthed at a fixed ro-ro facility, such as in the enclosed Liverpool docks, where NIF currently has its terminal. Even when *Mersey Viking* is completely full of trucks and trailers, the deadweight rarely, if ever, exceeds 4000dwt; the main deck is therefore often at a higher level than the quay. This is exacerbated during early stages of unloading when vehicles at the aft end of the main and upper decks have rapidly driven off the vessel, leaving the trimming pumps unable to compensate. The comparatively short length of the stern ramp occasionally creates problems for low vehicles at the hinge points; however, when the new Liverpool linkspan is installed, these problems will be eliminated.

Compared with other recently delivered ro-pax vessels, *Mersey Viking* offers a number of interesting solutions. Her relatively high speed allied with a low fuel consumption is attractive to her present charterer and will allow her to operate effectively on virtually any European ro-ro route. ✚

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