RINA
THE ROYAL INSTITUTION
OF NAVAL ARCHITECTS
NEW SOUTH WALES SECTION

IMAREST
The Institute of Marine Engineering, Science and Technology
Sydney Branch

RINA/IMarEST Technical Presentation

Composite Superstructures on Car Carriers

Speaker: Valerio Corniani
Global Marine Segment Manager
Diab Group

Date Wednesday 3 April 2019

Venue: Harricks Auditorium
Engineers Australia
8 Thomas St
Chatswood

Refreshments: 6:00 pm

Presentation: 6:30 pm

Siem Cicero is a car carrier with length overall of 200 m, beam 32.26 m, draft 8 m, displacement 17 170 t, power 11 200 kW and capable of carrying 7000 cars and heavy vehicles. She was built by Uljanic in Pula, Croatia for London-based Siem Car Carriers, serving mainly Volkswagen cars.

Uljanic spent two years working closely on research and development with the support of Diab and, by building the top three out of thirteen decks with Divinycell sandwich panels, has cut each deck mass by 25% compared to steel. These decks are the first extensive application of sandwich composite construction in the shipping industry. The top three decks are built in sandwich composite using Diab's lightweight Divinycell core. Each deck uses 2500 m^2 of Divinycell H80 and 1000 m^2 of Divinycell H100. These mass savings also result in less ballast required for stability, and a reduced fuel consumption of 4%.

With close cooperation and a careful analysis of data from this first vessel, Uljanik and Diab are looking at how core sandwich solutions can be used in other ships. The collaboration between Uljanik and Diab offers a unique opportunity to estimate and measure the savings that can be achieved with sandwich composite solutions.

This presentation will discuss the thinking behind the extensive use of composite sandwich panels in the construction of *Siem Cicero*, and the possible extensions to other vessels.