



# The clear advantage

Andreas Schipper looks at the evolution of using glass within superyacht design and construction and asks, what does the future hold?

In the early years of superyacht design and construction, windows were simply required to admit daylight into the cabins, bridge and staterooms, and also to withstand impact from waves. Limited technologies meant that the windows of a classic yacht like Nahlin or Talitha G were small when compared to the modern era. Beautiful witnesses of the early times of Superyacht building.

At the end of the 20th century, when designs for superyachts became more and more eye-catching and unique, utilising different colours, profiles and shapes, the requirement for specialized glass grew. Various innovations followed; glazing manufactured with coloured inter layers, ultra thin metal coatings gave superyacht windows a mirror reflective appearance, even curved windows were installed into the superstructure of the owner's areas.

An excellent example of the development of superyacht windows is the 1991 motor yacht Enigma (ex Eco). Manufacturers and suppliers were immediately asked to respect the new requirements and upgrade their technologies. Glazing for yachts were now made as multi laminated units to allow larger and stronger windows. The glass products were toughened by thermal or chemical treatment and the application of coloured films or reflective coatings gave yacht windows a beautiful surface.

## Driven by demand

Until the early years of the 21st century, basic production technologies met the requirements of superyacht designers. But as time went on more demands were added; windows needed to withstand fire, to be bulletproof or blast resistant, the surfaces needed to illuminate during the night or to be self-cleaning. The supply of windows and glazing in the superyacht world became more complex and challenging. The first project undertaken where the superstructure appears to be built completely of glass was the Feadship motor yacht Venus. Glazing

was installed flush to the hull or superstructure surface without any mechanical frame and this required new installation methods. These innovations also meant that not every supplier was capable of fulfilling these new demands. However, forward thinking and innovative companies updated their manufacturing methods and invested in training their employees to become all encompassing specialists.

## Design and innovation

Today new manufacturing methods can produce a single glass pane with a width totalling 15 metres. Highly skilled engineers and suppliers developed new methods for bedding and installation of the panes to integrate these very large units into the structure of the yacht. By utilising new materials for the lamination of glass panels, the thickness and weight of the panes can be reduced to almost half of a 'classic styled window'. This became more important in terms of helping to keep the overall weight of a yacht to a minimum. The first type of this specialist glass approved with these essential properties was 'GLY-MarineCobond' from GL Yachtverglasung in Germany, Lloyds Registered with approval in January 2014. During a series of very extensive testing, these products proved worthy of exceeding the demands of new and future superyacht designs.

Glass is a functional material and can be upgraded with plenty of elementary safety characteristics. Further to this, because of its transparency and the unique scope for design using colours and shapes, glass is now an essential part of the appearance of any superyacht. We will follow the future development of this innovative material and see how it will have a greater influence on the superyacht designs of the future. The fully glazed superyacht? Maybe a question of time...

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