



## The science of silence

From lifeboats and commercial workboats, to small sailing yachts and hundred metre superyachts, mariners recognise the engineering benefits of using a range of composite materials. The specialist team at Halyard design, manufacture and install systems to help create a quieter and smoother onboard experience by reducing noise and vibrations as well as meeting regulations to reduce smoke and other potentially toxic engine emissions.

Whether carrying out a new build or refit, key to the delivery of successful projects is the combination of Halyard's in-house designers' skills and manufacturing capability. A range of composite materials are regularly used in the manufacture of high performance dry and wet exhaust systems, silencers and filtration systems.

Based at Portsmouth on the UK's south west coast, the Team at Halyard's Composites factory have been working with composite materials for over 20 years to manufacture often complex shaped and intricate systems. The Halyard team use a range of composite manufacturing techniques best suited for the components performance requirements, these range from Filament Winding GRP tube, Carbon Fibre Pre-Preg, Wet Lay Up in traditional CSM/ polyester resin to E-Glass in Epoxy resin. Material selection and control is critical in the design of high quality exhaust systems and the correct resin and fibre selection are key for producing a consistent component.



Halyard is the only company in the world able to make entire exhaust systems in-house, from GRP filament wound tube and GRP silencers, silicone and nitrile exhaust hoses, stainless steel, super duplex and alloy 625 riser systems, water injection spray rings and marine exhaust hose and silicone couplings –all carrying Lloyds Register Type approval.

To find out more about Halyard, visit [www.halyard.eu.com](http://www.halyard.eu.com) or contact Rob Wilder by email: [rwilder@halyard.eu.com](mailto:rwilder@halyard.eu.com) or telephone: +44 (0) 1722 713704.