

### Propulsion Systems for Leisure and Commercial Boats

www.teignbridge.co.uk

## **Teignbridge Standard Propellers**

Teignbridge have been manufacturing standard propellers for the world's production boat builders for decades. The company boasts one of the most comprehensive ranges of standard propellers available in the world today. There is a standard model of propeller to suit almost any application. Over the past twenty years the needs of the marine industry have been constantly changing, where more sophisticated vessels have created an ever-increasing demand for more power and higher speed.

Teignbridge has met this challenge by constantly updating its standard propeller range with new innovative designs. With a Teignbridge propeller, motor yacht builders can be assured that their boats will consistently achieve the high-performance, smoothness and safety levels that their customers have come to expect.



With higher blade area, raked and skewed propeller blades, and advanced hydrodynamic sections, Teignbridge propellers deliver more power to the water, giving customers the performance they seek.

Teignbridge recognizes the importance of strong customer support with regard to each and every performance need and application. The correct selection of the propeller for each particular application is critical to the customer's satisfaction. We pride ourselves in the quality of our technical support program, which only, highly-qualified, skilled and experienced Mechanical Engineers and Naval Architects can provide.

The following production boat builders have fitted Teignbridge standard propellers along with rudders, struts and shaft assemblies:

Princess Yachts, Sealine, Fairline, Ferretti, Riva, Cranchi, Sunseeker, Searay, Hatteras, Carver, Azimut, Numarine, Storebro, Nimbus, Rodman, Menorquin, Aquastar, Pearl, Apreamare, Riviera, Maritimo and many others.



TEIGNBRIDGE PROPELLERS

## Teignbridge Custom and Commercial Propellers

Teignbridge has been manufacturing Custom Propellers for customers all around the world for decades. The company boasts a strong team of propeller designers with many years of experience. Over the years custom propellers have been designed and manufactured to suit almost any application imaginable. The database built up during this time is just one of the company's many strengths.

During this period the needs of the marine industry have been constantly changing, where more sophisticated vessels have created an ever-increasing demand for more power and higher speed. The Teignbridge designers have met this challenge and have contributed to the progress made by the industry in terms of vessel performance. We pride ourselves in the quality of our technical support provided by highly qualified, skilled and experienced Mechanical Engineers and Naval Architects.

Many of the worlds leading commercial boat builders, Superyacht builders and navies have fitted Teignbridge custom propellers and propulsion systems. An interesting statistic is that in excess of 20% of the company's propeller production is supplied to other propeller and propulsion companies.

Please contact the sales and marketing department for a reference list of boatbuilding, naval and propulsion customers.



#### High-Performance Custom Propellers

High-performance propellers can be produced to suit any application from fast naval patrol vessels to surface piercing propellers operating in the 50 knot speed range.

#### Custom Propellers for work boats

Whether it is a nozzle propeller for towing or a design for a triple screw Crew Supply Vessel, Teignbridge have the design credentials and the know-how to produce a design and get it right.

#### Specialist propellers for propulsion customers

Teignbridge manufacture and supply both fixed pitch and controllable pitch propellers to many of the major names in the propulsion industry. Propeller and blade castings of up to 3 tonnes are produced to the rules of all the major classification societies.



TEIGNBRIDGE PROPELLERS

# C-FOIL

The C-FOIL is a relatively new innovation in propeller design for fast boats. The challenge we set when designing the C-FOIL was to create a propeller that could overcome the cavitation problems encountered by so many 30 knot plus motor yachts.

We designed a root section which is wedge shaped and gradually increases in thickness from leading to trailing edge. This unique blade section runs from the point where the blade joins the hub and blends into a more conventional section at the 0,50 radius. After exhaustive boat trials it was found that not only was the goal of reduced cavitation achieved, but the C-FOIL also ran smoother and quieter than other propellers with conventional sections.

In addition to these improvements it was found that the C-FOIL is the fastest propeller we have ever produced. In boat trials against all other makes of propeller over the past 4 years, the C-FOIL has out-performed them all with regard to top speed.

Speak to our sales technicians to find out more about how the remarkable C-FOIL can help your boat to achieve a superior performance.



## STEALTH-7

The STEALTH-7 propeller brings a new meaning to the word smoothness. The skewed blades sections of this propeller design make for the ultimate in smooth running and vibration-free performance.

Incorporating wedge shaped sections close to the blade root, this propeller is a further advancement in design compared to conventional skewed propellers. The STEALTH-7 design is suited to the more sophisticated motor yachts and superyachts being built today where quiet, cavitation free operation is an essential requirement.

Currently used on vessels with speeds between fifteen to twenty five knots, a new faster version for vessels with speeds in excess of 35 knots is currently being trialled. This revolutionary propeller is testing the boundaries of conventional propeller design theory. We believe it may well be the propeller of choice for high speed craft of the future. Speak to our sales technicians to find out more about this exciting range of propellers.



## Rudders

Teignbridge produce a wide range of rudders for all types of boats up to 80 metres in length. The two main types produced are cast bronze conventional through-hull rudders and transom mounted rudders. In addition, carbon steel and stainless steel fabricated rudders are also produced.

Rudder stocks are normally designed as an integral part of the rudder casting but stainless steel stocks, cast into the blade are becoming increasingly popular with some production builders. The fairing of the area where the stock is cast into the blade is less streamlined with this type of rudder than that of the integrally cast rudder stock. This point should be considered at the design stage.

Various types of rudder tubes, seals and bearings are designed and manufactured. For conventional spade rudders GRP tubes are the most popular fitted with lip seals and low water absorbtion, acetal bearings. For commercial vessels, fabricated steel tubes are designed, fitted with Thordon, Vesconite or Railko bearings.

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Computer modelling of a Ferretti F781 rudder prior to manufacturing

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TEIGNBRIDGE PROPELLERS

The final rudder cast in aluminum bronze The Teignbridge technical sales department will be pleased to dsicuss your rudder and rudder tube requirements and propose a suitable design for your application.

Teignbridge have designed and manufactured in excess of of 200 different designs of rudder during the past 35 years. Boat builders and naval architects usually have their own ideas of how a rudder blade section should be designed. With the wealth of experience that exists within the Teignbridge design department we can usually offer some useful advice for them to consider.

Over the years we have manufactured and tested many different types of rudder designs. Blades with NACA sections, wedge shaped sections, flat plate blades and airfoil sections. We can advise on how to prevent rudders from stalling or sucking in air. We have designed many rudders with anti-cavitation plates as an integral part of the casting.

We hold rudder patterns for many of the worlds leading motor yacht builders and regularly manufacture spares. Included in our extensive design database is also a complete range of tiller arms and rudder tube designs from the smallest day boat upto 50 metre superyachts.

> A batch of rudders for production 60' Motor Yachts



### P-brackets and A-brackets

Teignbridge designs and manufactures P-Brackets and A brackets to suit all types of boats. The limiting factor is a maximum cast weight of around 3 tonnes. The majority of brackets are cast in nickel aluminium bronze AB2 from patterns produced on the company's 5-axis milling machine.

Using the bearing bore as a reference datum, the palm is machined to the correct compound angle to suit the hull and the dead rise angle. The struts are usually secured to the hull with forged aluminium bronze countersunk head bolts. The bolts pass through the hull and an internal backing plate. The bolts are fitted with nut and lock-nut and are bonded to the other thru-hull fittings in the boat.

The Teignbridge design department has designed and engineered hundreds of different P-brackets over the past 35 years for many of the world's leading builders of motor yachts. In addition, the company also has a wealth of experience in designing brackets for military vessels and commercial high-speed craft. Teignbridge hold approvals from all of the major classification societies including Lloyds' Register, ABS, BV, DNV, RINA, GL and many others.



Most production builders use the same strut on the port and starboard side of the boat by setting a flat in the hull design in way of the strut location. By using a level dead rise angle, the bracket machining is simplified and therefore cheaper to produce. In cases where a dead-rise

angle is present, handed struts are used.

Another style of strut is the Through-Hull or Glass-in Strut. This type of strut is fitted through a slot in the hull and glassed in place and braced. The strut penetrates approximately 300mm into the hull. This style of strut provides the boat builder with the greatest flexibility in location. Glass-in struts have been manufactured in



Installation 58 ft Express Cruiser

sizes up to 150mm shaft diameter. Metric and imperial sizes are generally held in stock in the size range 45mm up to 80mm fitted with water lubricated bearings

For steel hulled Superyachts and commercial vessels, Teignbridge design and manufacture fabricated struts and brackets. These are normally manufactured to classification rules. A variety of bearing materials are fitted. These include conventional water lubricated neoprene bearings, Thordon, Vesconite and Railko.

