

HIGH QUALITY SURFACE TREATMENTS

PROTECTION AGAINST CORROSION



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FLOWGRILL.COM



Functional and stylish tailormade yacht solutions

Handelsdwarstraat 2
6905 DJ Zevenaar
The Netherlands
T: +31 316 592934
E: info@flowgrill.com
W: www.flowgrill.com

Ventilation grills are particularly susceptible to high levels of corrosion when fitted on board luxury superyachts. The combination of airflow, salt water, sunlight and air pollution can be disastrous for grills, and therefore the surface treatment that they receive is one of the most important elements in the production process, second only to smart technical design. FlowGrill, designer and supplier of standard and custom-made products, such as ventilation grills, is continually investing in research to find the highest quality surface treatments.



Prior to the application of paint, one of the best processes to begin with is chemical pre-treatment. This entails submerging the product in three different chemical baths to clean, degrease and apply a conversion layer.

The conversion layer serves as the first layer of protection against corrosion, as well as enabling the first coat of paint to adhere to a clean product. To protect our products even further from the highly corrosive nature of a marine environment, FlowGrill has carried out a salt spray test on a sample product that has been scratched and damaged by hand after having been coated with standard traditional paint. The results show that the surface treatment should never contain any damage or hairline cracks.

TESTING THE THEORY

In collaboration with different international leading companies, FlowGrill has developed a new revolutionary quality improvement: a combination of powder coating and wet paint named the 'hybrid coating system'. This new hybrid coating system consists of several treatments; after the first layer of chemical pre-treatment, the next two layers consist of a special marine powder coating, while the last two layers consist of wet paint, being sure to use the same brand and colour that has been used on the yacht. The new hybrid coating system ensures a decreased sensitivity to damage and cracks due to the layers being

far stronger and durable, as well as achieving a superior level of paint coverage around the edges. In addition, by using powder coatings, hard-to-reach areas now receive the required layer of thickness.

FULL ACCREDITATION

The new paint system has undergone a number of full, accredited tests over the course of four years before ever being applied to products on yachts. The tests were carried out in laboratories by reputable international companies, such as the German company TÜV. A variety of sample tests were carried out using differing conditions to ensure the quality of results.

TEST FACTORS

The main relevant test factors are: the 'Cross Cut' method, which uses a lattice pattern to test the level of separation resistance of paints and coatings layers with regards to substrates; the 'Scratch' test that uses a fine cut made by a knife to test the coating's level of adhesion to substrates; the use of hot wet storage in 40°C and 98% rH to test the level of resistance against humidity; the reproduction of different weather conditions using QUV-A sunlight; the use of water storage to test the level of resistance to liquids; the use of hot dry storage to test the level of discolouration and bleeding of individual layers when exposed to high temperatures; the level of resistance to artificial weathering over the course of 2,000 hours, including chalking, discolouration and loss of gloss; and finally, the 'Salt Spray Test', which tests the level of resistance to corrosion during an aggressive maritime climate over the course of 2,000 hours.



The positive results of this extensive research goes to confirm the new hybrid coating system's suitability for use on luxury yachts, and has proven to be a significant step forward for FlowGrill. In addition, using the new hybrid coating system also helps with the provision of a warranty thanks to its ability to increase a product's lifespan.