



Gloss Units in a Long-Term Test

Effects of polishing and sealing on yacht paintwork

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Gloss is the defining feature of a super yacht's paint. Ideally, it should last for as long as possible, even after being treated with the right care products. The coating experts from Wrede Technologies (WRETEC), in cooperation with Peter Wrede Yachtrefit and polishing professional Kai Sommermeyer in Wedel near Hamburg, have carried out a long-term test on the effects of polishing and sealing on the gloss behaviour of yacht paintwork.

For one year, the specialists treated, monitored and measured ten differently treated test surfaces on a mockup, the model of a yacht hull. For this, the mockup's ten-year-old paint was thoroughly washed and gently polished. Then ten test surfaces were masked. A total of nine sealing products available on the market based on wax, polymer and ceramic formulations were applied to the test surfaces in strict compliance with the manufacturers' instructions. For reference purposes, one surface was not sealed after the polishing process.

During the first 6 months of the test, the experts cleaned the surfaces with yacht shampoo once per week. From the winter of 2018 onwards, the experiment was left to the environment with no additional cleaning. The surfaces were inspected at regular intervals by WRETEC and examined using a variety of methods. In addition to gloss and colour tone measurements, this included tests on surface roughness and tension. The materials were also examined using a microscope and Fourier-transform infrared spectrometry (FTIR). After more than a year, the surface areas were cleaned and then measured again.

Pavel Jeljakin from WRETEC explains: "Gloss, measured with a reflectometer, shows the ratio between the incident light and the light reflected from the surface at the angle of specular reflection. The unit of measurement used for measuring gloss is GU, meaning 'gloss units'". The gloss of most coatings lies in the 0 to 100 GU range. The angles of measurement are specified at 20, 60 or 85 degrees. According to ISO 2813, gloss is first measured at an angle of 60 degrees. If the value measured is above 70 GU, the measuring angle is reduced to 20 degrees.



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Before polishing, gloss of the mockup surface measured at an angle of 60 degrees was 40 and 71 GU. Immediately after polishing, the measurement of all surfaces resulted in gloss units between 90 and 96. After applying the various sealants, a reduction in gloss was observed on all test surfaces during the long-term test. At the end of the test, two of the sealed surfaces exhibited the most stable values for gloss over the entire period. Both sealants are ceramic-based and from different manufacturers. The test winner had a gloss value of 89 GU after one year of weathering.

“Based on our long-term test, we are able to better estimate the gloss protection of yacht coatings using different sealants, even in the long run. We are always available for detailed advice on all questions relating to coatings for superyachts,” says Jeljakin.

About WREDE Technology

Founded in 2016, WREDE Technology (WRETEC) is the first port of call when it comes to the unequivocal clarification of coating damage on superyachts. The Hamburg-based company benefits from Wrede Consulting GmbH's many years of experience in consulting on coating processes and combines this with state-of-the-art technical analysis methods. More information is available at: www.wretec.com

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