

NOISE AND VIBRATION MEASUREMENTS

Van Cappellen Consultancy performs noise and vibration measurements using state-of-the-art, handheld measuring equipment. There are numerous measurement objectives, including checking whether noise and vibration levels comply with the contract specification, pre and post refit comparisons or survey troubleshooting.

Our full and comprehensive report typically includes:
graphs of measurements, visual findings and clear conclusions.

Standardised (sea trial) measurements

All noise, vibration and acoustic privacy measurements are performed in accordance with the rules and guidelines as described in the contract specification. Depending on the contract specification, the measurements may be performed under a variety of machinery operating conditions.

Van Cappellen Consultancy is familiar with many international standards, including IMO, ISO, LR PCAC and DNV. As an independent company, our customer base consists of owners, shipyards and other consultancy firms.

If noise and vibration limits are not outlined in the contract or specification, our experience with over 500 yachts can be used in the assessment of the recorded levels.

Troubleshooting

When conducting a survey, measurements are performed to analyse a specific noise or vibration problem. Our 25 years of experience and handheld FFT equipment are perfect tools to identify the problem's origin. This enables Van Cappellen Consultancy to provide practical advice on how to address the noise or vibration issues. Typical reasons for excessive noise and vibration behaviour include gear whine, singing propellers, weak generator support structure, poor isolation of the gearbox mounts, etc.

Structural vibration measurements

During the build process, we can perform vibration measurements on machinery support and local structures using an impact hammer. These measurements indicate the structure's stiffness (input mobility) and specific local natural frequencies. Analysis of the latter is sometimes required to avoid excessive resonance. If necessary, Van Cappellen Consultancy will recommend additional stiffening, which is best analysed by means of FEM.

Contact us for more information.

