



Design Stage:

Entering the project in the Design Stage is very important for us. Many people think:

Noise and Vibration Control = Insulation Materials

This is not correct, insulation materials is the last step in the chain related to noise and vibration management.

Silent Line is performing the following studies in the Design Stage:

1| Noise and Vibration Levels:

We study each project as a one-off project. We look into:

- *Hull and Super structure material*
- *Ship speed*
- *Propulsion system*
- *Accommodation layout*
- *More*

Based on the above mentioned information, and our 30 years of experience related to noise and vibration control onboard luxury Yachts, we give a table on estimated noise levels which can be achieved (for both Cruising speed and Anchor condition) for each cabin / room.

2| Preliminary Insulation Plan (PIP) and weight distribution:

Using Excel we design a preliminary insulation plan per cabin / room. Each sheet (cabin / room) will contain:

- *Detailed information on hull insulation*
- *Detailed information on deck insulation*
- *Detailed information on bulkhead insulation*
- *Detailed information on floor insulation*
- *Detailed information on separation walls*

By means of the above mentioned information (PIP) we also provide:

- *Weight distribution per cabin / room / deck. Important information for the designer.*
- *Estimated budget / cost for all insulation materials*
- *Space required for insulation materials, separation walls (cabin-to-cabin noise, acoustic privacy)*



3| Main sound sources:

In this stage we will have a close look into the main sound sources such as:

- *Propulsion train*
- *Generator set*
- *Position of main secondary machinery*
- *Position of air conditioning units*
- *Room acoustic (finishing inside a cabin / room)*
- *More*

In case we have comments, from noise and vibration point of view, we will share this with the designer. A quiet Yacht starts by reducing the noise and vibration levels at the source(s).

4| Cabin-to-Cabin noise (acoustic privacy):

In the nowadays builder's specification cabin-to-cabin noise is mentioned as well as R_w values or STC levels. Based on our estimated noise levels (especially at anchor condition, noise levels below 30 dB (A)) we will recommend the "correct" type of separation wall(s).

