

ISO 2631 TC108/SC4 WG 18

"Laboratory evaluation of marine seat shock isolation"

Working group 18 is a relatively new group dedicated to the development of standardized testing for marine seat shock mitigation. The group consists of international industry, academic, and government experts working together to develop a methodology for testing the shock-mitigating performance of marine seats in a reliable and repeatable manner. Participants in the working group include scientists and engineers from the UK, USA, Canada, and Japan. Meetings are held 1-2 times per year, with the next session convening on December 10 in Victoria, BC. Between meetings, there is an active flow of information and data among group members.

The working group is addressing a fundamental problem in the marine seating industry. While there are many seat vendors, without a scientifically-based testing standard it is very difficult to compare products and understand performance. At present, with no standardized testing procedure or performance metric the industry is rife with unsubstantiated claims. The testing standard under development will make it very clear which seats perform at which levels, and as a result seat manufacturers and customers alike will be able to communicate product performance and requirements in the appropriate way. To achieve these goals, the ISO working group is focussing on laboratory drop tests, with motion restricted to the vertical axis. The advantages of comparing seat performance using laboratory drop tests instead of sea trials are largely due to the high degree of control that can be achieved in a laboratory.

The standard under development can be roughly divided into two categories: laboratory test procedures, and performance metrics. The test procedures component includes specification of the physical testing procedure, sensor requirements, and data acquisition. The performance metrics component of the standard involves developing computational methods for quantifying acceleration signals and comparing their severity.

Despite its brief existence, the working group has reached a mature state and has set a target to release a standard in 2016. This target is motivated by the extent of the confusion and misconceptions that abound at present, and the imminent need for government agencies to properly specify seating requirements.