

## **ACOUSTICS2008/3516** **Acoustical Effectiveness of Damping Coating**

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Damping coatings have again become popular in the shipbuilding industry to reduce onboard and underwater noise. Understanding of the actual effectiveness of damping tiles applied to ship structures is important for noise prediction during the design stage and for optimizing noise control. The commonly held opinion that energy loss is proportional to loss factor values is not confirmed by tests conducted on actual structures. This paper discusses differences between loss factors measured on the Oberst beam and on two-dimensional real structures. The paper shows how loss factor change may influence transmission loss, radiation efficiency and acceptance. The results of loss factor measurements in different conditions including water-loaded media are demonstrated. influences of resonant and non- resonant modes on damping tile effectiveness is discussed. Corrections for SEA noise prediction algorithms, taking into account results of this research, are proposed.