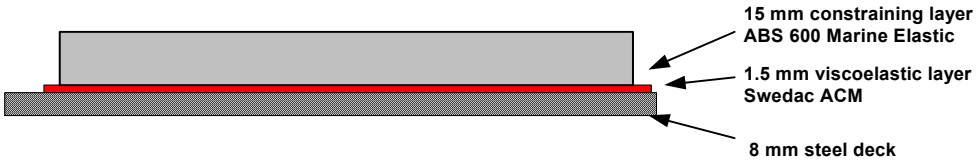
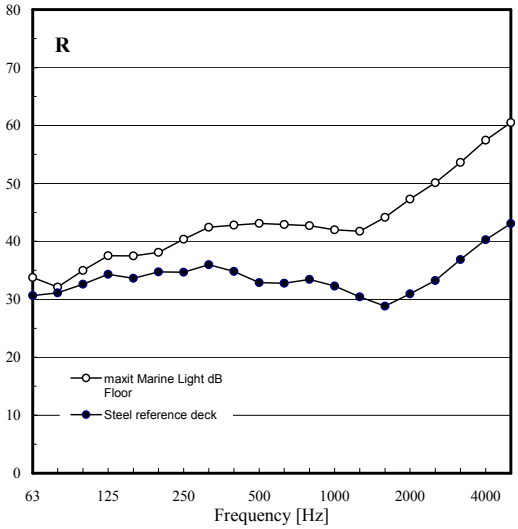
maxit Marine Light dB Floor



Airborne Sound Insulation Properties



Hz	dB
63	33.8
80	32.1
100	35.0
125	37.5
160	37.5
200	38.1
250	40.4
315	42.4
400	42.8
500	43.1
630	42.9
800	42.7
1000	42.0
1250	41.7
1600	44.1
2000	47.3
2500	50.1
3150	53.6
4000	57.5
5000	60.5

Rm	42.6
Rw	45
C	-1

Sound Reduction Index, R

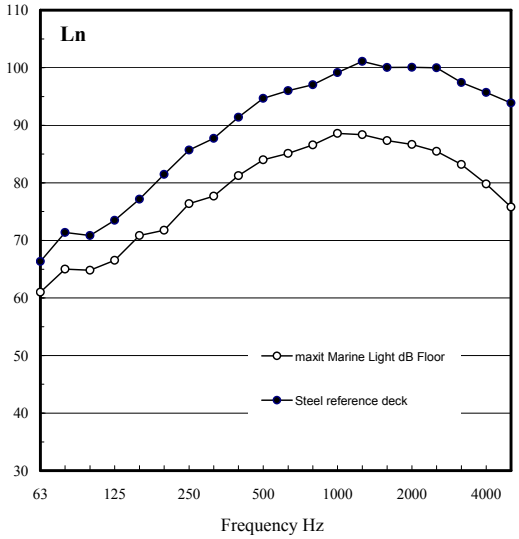
Measuring standard:
ISO 140/3, Laboratory measurements of airborne sound insulation of building elements.

R describes the sound insulation of the floor and is used for evaluating the noise reduction between adjoining rooms. From the calculated values of R the weighted sound reduction index R_w and the spectrum adaptation terms C was calculated following the procedure in ISO R717/1.

Typical marine applications, where the value of R is important, are

- Sound reduction between the engine rooms and the cabins just above.
- Sound reduction between noisy rooms, e.g. discotheques, show lounges etc. and the cabins just below or above.

Impact Sound Insulation Properties



Hz	dB
63	61.0
80	65.0
100	64.8
125	66.5
160	70.9
200	71.8
250	76.4
315	77.7
400	81.2
500	84.0
630	85.1
800	86.6
1000	88.6
1250	88.4
1600	87.3
2000	86.7
2500	85.5
3150	83.2
4000	79.8
5000	75.8

Ln,w	92
C_I	-11
dLw	-14

Normalized Impact Sound Pressure Level, L_n

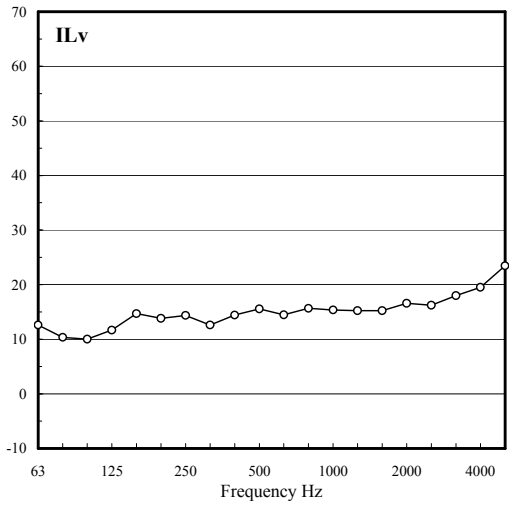
Measuring standard:
ISO 140/6, Laboratory measurements of impact sound insulation of floors.

L_n describes the impact sound pressure level in a reverberant room below the deck and is used for evaluating the reduction of noise caused by people walking and other human activities. From the measured values the weighted normalized impact sound $L_{n,w}$ and the spectrum adaptation term C_1 was calculated as outlined in ISO 717/2.

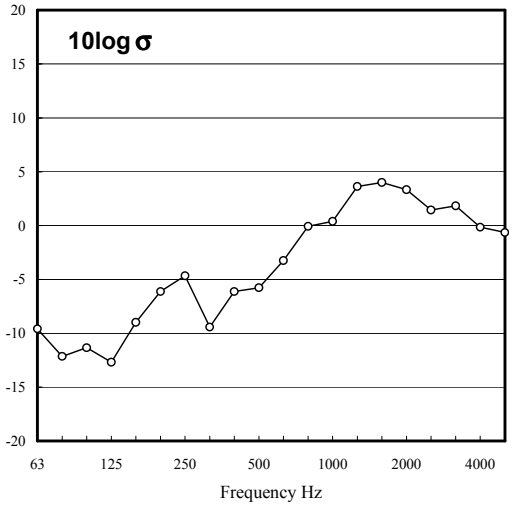
Typical marine applications, where the value of L_n is important, are

- Decks covered with hard floors like in corridors and on open deck on passenger ships with accommodation cabins located below.
- Decks used for dancing with accommodation cabins below.

Structure-borne Sound Insulation properties



Hz	dB
63	12.6
80	10.4
100	10.0
125	11.7
160	14.7
200	13.9
250	14.4
315	12.6
400	14.4
500	15.6
630	14.5
800	15.7
1000	15.4
1250	15.2
1600	15.2
2000	16.6
2500	16.2
3150	18.0
4000	19.5
5000	23.5



Hz	dB
63	-9.6
80	-12.2
100	-11.3
125	-12.7
160	-9.0
200	-6.1
250	-4.7
315	-9.4
400	-6.1
500	-5.8
630	-3.3
800	-0.1
1000	0.4
1250	3.6
1600	4.0
2000	3.3
2500	1.4
3150	1.8
4000	-0.2
5000	-0.6

Insertion Loss, IL_V

IL_V describes the difference between the velocity level measured on the bare steel deck before installation of the floor covering and the velocity level measured on top of the applied floor covering.

The insertion loss is used for evaluating the reduction of the structure borne velocity level caused by the floor covering. Popularly speaking the insertion loss describes the improvement achieved by using the floor covering.

Typical marine applications, where the Insertion Loss is important are

- Evaluation of the radiated noise level from the floor covering.
- Evaluation of the structure borne sound transmitted to the bulkheads mounted on the floor covering.

Radiation Index, 10 log σ

Measured according to its equation of definition using an electrodynamics vibration exciter.

The radiation index describes the ability of a vibrating floor to radiate sound. Thus, a high radiation index - in general terms - means a high noise level and vice versa. In practice, however, the noise level is determined by a combination of the velocity level and the radiation index.

No standard exist for measuring structure-borne sound insulation. The methods applied when measuring insertion loss and radiation index have been developed by Ødegaard & Danneskiold-Samsøe A/S.

Investigation and measurements performed by

Ødegaard & Danneskiold-Samsøe A/S

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