

DESSO

The Floor is Yours



DESSO SoundMaster®

DESSO SOUNDMASTER®

DESSO introduces SoundMaster® – the optimal solution for improved sound reduction and acoustics.

SoundMaster® offers an impact sound reduction value of minimal **+ 10 dB** in addition to the standard value, thereby setting a new industry standard in carpet performance. In addition, it offers a **60% improvement** in acoustical performance in comparison to our standard carpet designs.

DESSO SoundMaster® can contribute to an optimized acoustical performance in offices, schools, hospitals and other commercial applications. The particular layer construction (see *figure 1*) is uniquely designed to offer optimal sound absorption and insulation. The backing is made from 100% polyester (40% recycled) and is specifically chosen for its advanced sound insulation and absorption properties.

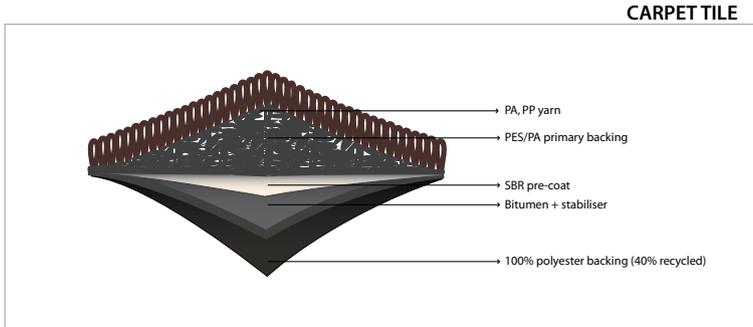


figure 1: Layer-model SoundMaster®



WHAT IS NOISE?

Noise is an unwanted sound; its intensity is measured in decibels (dB). The decibel scale is logarithmic, so a three decibel increase already represents a doubling of the noise intensity. Duration of exposure is also a very important factor.

Source: Noise in figures, European Agency for Safety and Health at Work 2005.

FLOOR COVERINGS AND ACOUSTICS

Sound absorption (α -values):

Sound absorption indicates the noise and echo effect in an area. A value of 0.00 means no sound will be absorbed by the material. A value of 1.00 means all sound has been absorbed. In general carpet gives a value between 0.15 and 0.20. (see figure 2)

Soundmaster offers a 60% improvement in acoustical performance in comparison to our standard carpet designs.

To compare: other flooring solutions (excl. carpet) give a value between 0.05 and 0.10.

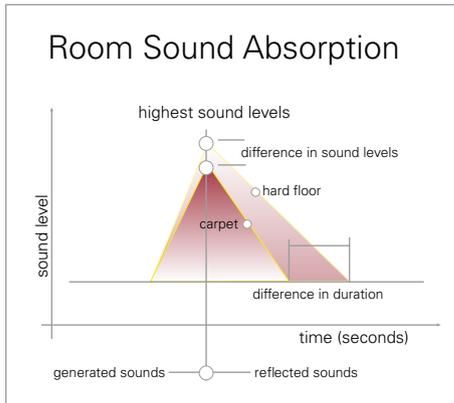


figure 2: Room Sound Absorption

FLOOR COVERINGS AND ACOUSTICS

Impact sound insulation (ΔL_w):

This means the acoustical impact, for example by footsteps, in the adjoining room or the room underneath. A hard floor covering will reduce the sound impact much less than a soft floor covering as carpet. The ΔL_w -value is given in decibel (dB). This gives the real number of decibels reduced by the flooring material. Carpet in general gives an impact sound reduction between 20 and 30 dB.

SoundMaster® offers a impact sound reduction value of minimal + 10 dB in addition to the standard sound impact value.

To compare: other flooring solutions (excl. carpet) give a value between 5 and 10 dB.

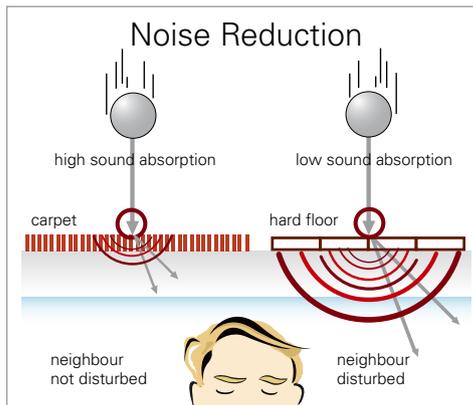


figure 3: Noise Reduction

“NOISE CAN AFFECT EDUCATIONAL PERFORMANCE?”

TRUE



FALSE



Noise in schools is perceived as a disturbing factor impeding the transfer of knowledge, which is mainly based on verbal communication. Teachers try to compensate for the noisy background by raising their voice.

As a result, noise levels in the classroom become progressively higher and teachers not only suffer higher mental and emotional strain, but vocal chord disorders as well.

- Noise in education is reported by workers in several Member States and voice disturbances have significant impact on teachers' absenteeism rates. WHO guidelines recommend a noise level of 35 dB (A) for school classrooms during a lesson, to avoid disturbance of communication.
- Actual noise levels in schools frequently exceed these limits and can reach as much as 60-80 dB(A).
- Better acoustics create a more relaxing work sphere, with higher motivation of staff and less sick days of teachers.
- High resonance causes a poor listening environment and a detrimental intake of study material.
- Generally, the problems are caused by improper wall, ceiling, and floor finishes.

Source: Noise in figures, European Agency for Safety and Health at Work, 2005

About DESSO

DESSO has been manufacturing and marketing carpet for more than 80 years, and during that time it has earned a fine reputation as a reliable partner and creative designer. Today, it has two factories in Europe and specialist customer service centres throughout Europe, as well as in America, Asia, South Africa, the Middle East and Australia. CARPETECTURE® is a powerful example of the DESSO commitment to creative carpet design and its dedication to answer the needs of architects, interior designers, building owners and end users.

DESSO products can be found in offices, public buildings, banks, schools, universities, retail shops and hospitals. Among its many highly valued customers are distinguished companies such as Rabobank, ABN AMRO, KPN, KLM, Marriot Hotels, Virgin Atlantic, Sheraton, Mercure, Starwood Hotels, Royal Caribbean Cruise Line and Carnival Caribbean Cruise Line.

Corporate Responsibility/ Cradle to Cradle

DESSO has been taking measures to safeguard the environment for many years – long before it became popular to do so. With an ISO 14001 environmental quality accreditation, regular on-site checks by independent institutes ensure the best possible environmental production methods. In addition, every DESSO carpet and carpet tile carries a unique GuT test number that proves it passes GuT tests for contamination and emission. We also have several initiatives for re-using carpet to ease the burden on landfill, and our ongoing research programme for environmental awareness and recycling covers both product and packaging. DESSO continuously seeks to improve the environmental attributes of our products through product design development programmes whilst our manufacturing plants consider energy use and a continuous reduction in waste and pollution as well as process improvement.

For more information visit our website at www.desso.com

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DESSO, a Cradle to Cradle company



+ 60%
ACOUSTIC IMPROVEMENT



+ 10dB
SOUND REDUCTION

THE IMPACT OF NOISE

In classrooms, offices, hospitals and other commercial applications there are two factors which should also be taken into consideration. These are: Signal-to-Noise-Ratio (SNR) and Reverberation.

WHAT IS SIGNAL-TO-NOISE-RATIO (SNR)?

SNR indicates the intelligibility of spoken information by comparing the loudness of the voice (signal) to the background sound level (noise) at a particular location. (see figure 4) The signal-to-noise ratio is simply the A-weighted signal level minus the A-weighted noise level. As the SNR increases, the signal becomes more distinguishable. For example: experts have concluded that an SNR of +15 dB throughout the classroom provides the acoustical environment necessary for all students to fully perceive oral messages.

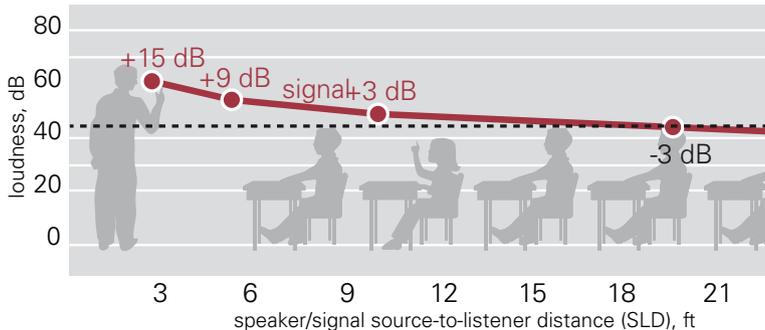


figure 4: Signal-to-noise ratio

WHAT IS REVERBERATION?

Reverberation (commonly known as an echo) is defined as the persistence of sound in a room after the source has stopped (*see figure 5*). Reverberation also affects the intelligibility of speech, as it becomes difficult to distinguish between different words.

For example: a 1978 study measured the effect of signal-to-noise ratio and reverberation time on speech recognition. In a "relatively good classroom listening environment" (SNR = +6 dB; RT = 0.4 second), children with normal hearing correctly recognized 71 percent of the spoken message.

Source: Trane Commercial Services, Engineers Newsletter: "A New Standard for Acoustics in the Classroom"- Vol. 32 No. 1, 2003, Website: www.trane.com

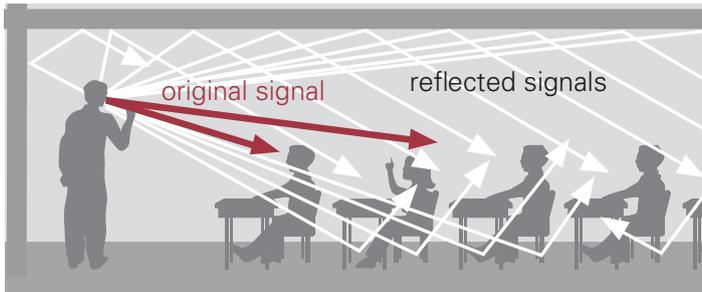


figure 5: Reverberation



“NOISE IS DAMAGING TO YOUR HEALTH?”

TRUE



FALSE



Noise need not be excessively loud to cause problems in the workplace, such as (chronic) hearing loss, stress, voice problems, cardiovascular problems, decreased learning ability and longer patient recovery periods

Exposure to noise may pose a variety of health and safety risks:

- Hearing loss: In many European countries, noise-induced hearing loss is the most prevalent irreversible industrial disease (World Health Organization). It is estimated that the number of people in Europe with hearing difficulties is more than the population of France (SIHI, University of Maastricht, 1997).
- Psychological effects: there is evidence that exposure to noise has an effect on the cardiovascular system.
- Work-related stress: work-related stress rarely has a single cause, and usually arises from an interaction of several risk factors. Noise in the work environment can be a stressor, even at quite low levels.

Source : Noise in figures, European Agency for Safety and Health at Work, 2005

DESSO CARPET IMPROVES ACOUSTICS & REDUCES NOISE

DESSO carpet absorbs light, reduces glare and soaks up noise – making a vital environment contribution to personal health and comfort.

Naturally, carpet is not the only contributing factor responsible for the overall acoustical performance. Numerous factors determine the sound levels in a room including: where the building is situated; the size and shape of the room; its placement relative to other interior spaces and construction of the ceiling, walls, and floor.

The installation of DESSO carpet can offer a significant acoustical improvement in offices, schools and hospitals, especially compared with other flooring solutions.

For more information on DESSO Soundmaster[®], please visit: www.desso.com.

