

## TransAtlanticSafety

### NOISE EXPOSURE LIMITS (85 dBA VS 90 dBA)

It is a well-established fact that high levels of noise can result in noise-induced hearing loss. However, noise cannot be completely eliminated in the industrial environment. We have to make a socioeconomic compromise to balance the benefits of noisy operations against the negative health effects.

The question is at what level we make that compromise? NIOSH published research in 1974 comparing the levels of hearing of groups of workers exposed to different levels of noise for extended periods of time.

The results were clear; the higher the level of noise, the greater is the damage to the hearing system. For comparison, a 90 dBA median exposure for 20 years resulted in a 40 dB hearing loss at 4 kHz. This was 10 dB more than for a group of workers exposed to 85 dBA median exposure for 16 years.

The dotted line indicates the hearing levels of the same age population without noise exposure. It can be seen that the best socioeconomic balance is achieved at the noise exposure limit of 85 dBA where lifetime exposure can result in only mild hearing loss. In practice, all exposures to noise should be kept below the 80 dBA mark.

Source: NIOSH Occupational Noise and Hearing: 1968–1972 (NIOSH Pub. No. 74-116).

### HEARING LOSS VS EXPOSURE LIMITS

