

## Acoustical Propensity

Carpet is an outstanding sound absorption material. When properly selected, carpet can absorb noise as efficiently as many specialized acoustical materials. Interiors fitted with carpet make the environment less stressful and reduce fatigue, beneficial in residential, hospitality and luxury environments.

- The Sound Absorption Figure is an indication of the carpet's ability to reduce the build-up of noise levels generated within a room by foot movement or from interior equipment such as furniture, telephones, computers and conversation. Carpet absorbs an appreciable proportion of all noise, which is reflected and prolonged from hard room surfaces. The standard test is ISO 354:2003.
- The Impact Sound Insulation Improvement is measured at various frequencies between 125 and 4000 Hz (from Low to High pitched sounds). It is measured in decibels and indicates a carpet's ability to reduce impact noise from rooms above to rooms below. Each 10-decibel reduction is a subjective halving of the level of sound. The standard test is ISO 10140-2.

The sound insulation values of Edward Fields carpets differ slightly between qualities. Generally the best performance is achieved by the use of a denser thicker pile carpet such as hand tufted qualities in natural yarns such as wool and silk. It should be noted that cut pile carpet provides a greater Noise Reduction Coefficient (NRC) than loop pile construction with otherwise identical specifications.

Sound insulation can be further improved by the use of the appropriate underlay. A good quality synthetic felt, foam rubber and/or underlay containing a combination of both, generally performs better than a thin sponge rubber product. Dense crumb rubber underlay improves the overall acoustical noise reduction performance in public areas with an increase in thickness, particularly in the medium to high frequencies. Specialized sound insulation underlay is available, but these are generally only considered necessary for use under hard flooring (wood, laminates, etc.).

High performing underlays are designed with density and sound absorption in mind. As an example, high performance underlays suitable for heavy and general contract use as well as domestic and marine work have a sound absorption of >30dB for 6mm and >40dB for 8mm product thicknesses. Installed together with a medium (450WT) to heavy weight (650WT) hand tufted carpet in wool or silk from Edward Fields, this combination of carpet and underlay will provide a very high level of both sound absorption and insulation, particularly effective on highly resonant surfaces such as polished wood and laminates.