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Brintons carpets acheive Class C sound absorption

Carpet is an outstanding sound absorption material. When properly selected carpet can absorb noise as efficiently as many specialised acoustical materials. Rooms fitted with carpet make the working atmosphere much less stressful and tiring, and the leisure environment more comfortable and relaxing.

The sound absorption figure

Is an indication of the carpets ability to reduce the build up of noise levels generated within a room by foot movement or from office equipment such as furniture, telephones, computers and conversation. Carpet absorbs an appreciable proportion of the sounds which are reflected and prolonged from hard room surfaces. The UK standard test is BS EN 20354 formerly BS 3638. A sound absorption coefficient of 1.0 indicates complete absorption of sound.

The noise reduction coefficient (NRC)

Is calculated from the sound absorption test data, based on measurements between 250 and 2000 Hz. An NRC figure of 0.21 indicates a likely reduction of 21% in acoustic energy.

The Impact Sound Insulation Improvement (Delta L)

Is measured at various frequencies between 125 and 4000 Hz (from Low to High pitched sounds). It is measured in decibels and indicates a carpets ability to reduce impact noise from rooms above to rooms below. Each 10 decibels reduction is a subjective halving of the level of sound.

The Weighted Sound Improvement Index (Delta Lw) (BS 5821: 1984)

Is a figure measured in decibels derived from the impact sound insulation test data. This figure is useful as a comparison between different types of carpet tested under similar conditions.

- Quality - The sound insulation values of Brintons carpets differ slightly between qualities. Generally the best performance is achieved by the use of a denser thicker pile. Axminster 1028 would therefore be expected to perform slightly, but not significantly, better than Axminster 628. Majestic and Finepoint Wilton carpets woud also achieve good sound insulation values.

- Underlay - Sound insulation can be further improved by the use of an underlay. Good quality, hair felt, foam rubber and underlays containing a combination of both, generally perform better than thin sponge rubber products. Hair felt underlays improve in performance with an increase in thickness, particularly in the medium to high frequencies. Specialised sound insulation underlays are available but these are generally only considered necessary for use with hard flooring.

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Acoustic testing of carpets to Class C performance

Section E of the Building Regulations now stipulates that public circulation areas, typically stairways and corridors in flats, need to be protected with a sound insulation system that achieves a "Class C" rating for sound absorption. This usually means that an "acoustic tile" ceiling equal in area to the floor is installed. This is costly and troublesome for the builder to install.

It is known that carpets have good sound absorption properties but in reality it is understood that only the densest carpets with a thick underlay will achieve a "Class C" rating. If the entire floor is covered with carpet and underlay which together achieve a "Class C" performance the requirements for sound absorption will be met without the need for any other sound absorbing material.

Brintons have carried out testing of some of our carpet products and have test reports from SRL. Typical sound insulation figures and Class C sound absorbtion reports are available from Brintons carpets, please contact our Technical Services Department.

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