



# THERMAFLEECE®

SHEEP'S WOOL THERMAL AND ACOUSTIC INSULATION

## ACOUSTIC PERFORMANCE



Thermafleece is widely recognised as one of the country's leading brands of natural thermal insulation. In addition to providing thermal efficiency performance and helping improve indoor air quality, Thermafleece has excellent acoustic properties and can contribute significantly to the reduction in the passage of sound in structures in line with current UK Building Regulations.

### Acoustic Properties of Thermafleece

The use of Thermafleece in timber framed walls or floors can significantly improve the sound insulation properties. Tests show that the use of Thermafleece in a 100mm cavity of a timber framed wall or floor can improve the sound reduction index by approximately 8dB. If a sound is reduced in level by 8dB, a person would experience it as almost a halving of the original sound level.

### Transmission of Sound in Buildings

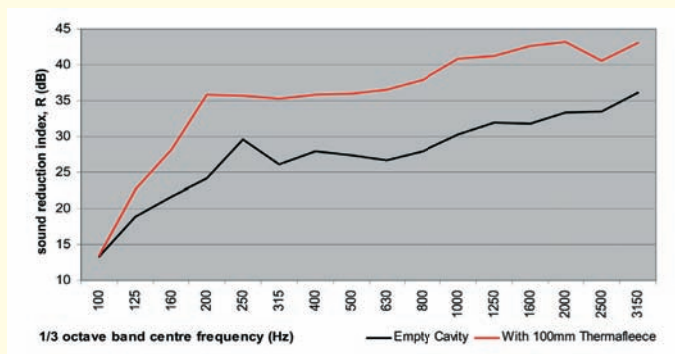
When sound hits the surface of a wall or floor/ceiling, a proportion will be reflected from the surface and back into the room, and a proportion will be transmitted through the wall or floor into adjacent rooms or buildings. Therefore, in order to create a pleasant indoor environment, it is important to manage the amount of sound transmitted from one room to the other.

### Sound Reverberation within Rooms

In addition to reducing the amount of sound travelling between rooms (sound insulation), installation of sound - absorbent materials such as Thermafleece within the room will help create an appropriate "acoustic atmosphere". This ensures a room is not too reverberant ("echoey") which is desirable since reverberation in a room can be uncomfortable, or can mean that it is not possible to understand the words of a public speaker.

Thermafleece has been tested according to ISO 354:1985/ BSEN 20354:1993, (Measurement of absorption in a reverberation room) and showed excellent acoustic absorption properties, particularly over the frequency range of human speech.

### Sound Insulation of Stud Wall



**Stud Wall Construction** ———  
100mm x 50mm timber studs at 600mm centres  
1 x 15mm Larfarge plasterboard (10kg/m<sup>2</sup>) screwed to each side  
Air cavity

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100mm x 50mm timber studs at 600mm centres  
1 x 15mm Larfarge plasterboard (10kg/m<sup>2</sup>) screwed to each side  
100mm Thermafleece in cavity

Measurements of airborne sound insulation was made in accordance with BS EN ISO 140: Part 3 (1995).

Measurements made by BRE (UKAS accredited for the measurement of sound insulation in the field and the laboratory), November/December 2002.



### Acoustic Regulations

Since the introduction of revised Part E of the UK Building Regulations in 2003 closer attention has had to be paid to acoustic issues in certain constructions. The regulations (Approved Document E) require resistance to the passage of sound between buildings. In addition to dwellings, Part E also applies to a wide variety of situations including schools and rooms for residential purposes such as old people's homes, boarding school bedrooms and hotel rooms. As part of the overall sound reduction measures the use of appropriate absorbent materials such as Thermafleece to fill wall voids will make a valuable contribution towards passing required acoustic tests under the regulations.

In line with good practice, Thermafleece should be considered in conjunction with the range of measures available when managing the passage of sound.

## THERMAFLEECE

Healthy to use. Healthy to live with

For further information contact:

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