

## Noise - Guidance on Home Improvements



### 1. Introduction

This leaflet provides some basic information on home improvements and how noise issues can arise from carrying out such work. Much of this work is not covered by the building regulations. Many local authorities and property organisations provide more detailed guidance that can be accessed on the internet.

Carrying out home improvements appeals to the DIY enthusiast. Some of these 'improvements' can have severe implications for the sound performance of party walls and floors and can cause a disturbance to neighbours.

### 2. Floor Coverings

Floor coverings are not covered by the building regulations. However, many home owners choose to lift carpets and sand existing floors, or install hard floor coverings such as laminate or tiles, which could have a detrimental effect. People in flats who live beneath a neighbour who has made such a change, can be exposed to an increase in noise level. This is largely due to better sound insulation that carpet gives in comparison to that of hard floor coverings. Therefore, the neighbours below will often perceive the sound insulation to have been reduced, and that the noise levels have increased.

### 3. Effects of Hard Flooring

This problem particularly affects Scotland as there is a noticeably higher proportion of flatted developments (around 38%) compared to other parts of the UK. It is in older flats where laminate flooring has been loose laid on top of the party floor that the problem is at its worst. Although the issue has been around for many years it is only coming to light now with the growing trend towards the removal of carpets and replacement with laminate flooring. Noise is measured in decibels (dB) and there can be as much as a 22 dB reduction to the sound insulation of a timber floor where a carpet is lifted and either the existing floor is sanded or laminate flooring is laid.

The following table shows the affects changing the floor coverings can have with different types of floor.

#### Difference in sound insulation level (dB) using different floor coverings

Floor covering	Type of floor		
	Timber (c2005)	Timber (pre 1919)	Concrete (c1960s)
Carpet & underlay	23	21	53
Carpet only	12	13	44
Laminate floor & underlay	1	5	25
Laminate floor (no underlay)	1	4	19



Noise transfer through a floor should be considered as it can be affected by the following:

- floor constructions that give rise to problems;
- use of good quality underlays;
- laminate and hardwood flooring on lightweight floor constructions; and
- if any floating floors exist.

Good practice guidance on the laying of laminate flooring can be found in chapter 8 of 'The Development and Production of a Guide for Noise Control from Laminated and Wooden Flooring'. Available at:

<http://www.scotland.gov.uk/Publications/2005/03/20901/55211>

#### 4. Installations affecting Ceilings, Party Walls and Floors

The introduction of downlighters in party floors or ceilings and loudspeakers into party walls and floors is becoming more common. Loudspeakers or downlighters should not be fitted within party walls or floors, as the sound insulation will be reduced.

The surface mounting of speakers on a party wall will always be detrimental to the sound performance of the wall. For this reason, consideration should be given to the noise heard by the neighbour next door. Building regulations do not cover this type of fixture and reliance has to be placed on the householder to have consideration for their neighbours.

Electrical work often requires channels to be cut into walls to accommodate wiring, sockets or switches. In the case of electrical work in houses up to two storeys in height, a building warrant is not required. However, the work must comply with building regulations. Building warrant permission will only be needed if work affects a party wall. In flats, building warrant permission is required to install any new electrical work. It is the responsibility of the home owner, to comply with the building regulations.

The installation of kitchen units placed on party walls is often unavoidable. Disturbance can be caused by the slamming effect that can be created by door hinges and drawer runners. Where there is no option other than to site such units against party walls, consideration should be given to incorporating 'soft close' buffers to the doors and drawers.

#### 5. Further Advice

Further advice and information is available from our website:

- The Technical Handbooks:  
[http://www.sbsa.gov.uk/tech\\_handbooks/tbooks2008.htm](http://www.sbsa.gov.uk/tech_handbooks/tbooks2008.htm)
- Improving sound insulation in existing dwellings and designing for conversions  
<http://www.arcamedia.co.uk/hsi/hsi-report.pdf>
- Sustainable home improvements  
[www.sbsa.gov.uk/homeimprovements.html](http://www.sbsa.gov.uk/homeimprovements.html)
- Laminate flooring report  
<http://www.scotland.gov.uk/Publications/2005/03/20901/55202>

#### For queries on existing buildings contact:

Air, Noise & Nuisance Team  
Area 1G North, Victoria Quay  
Edinburgh, EH6 6QQ

E-mail: [noise@scotland.gsi.gov.uk](mailto:noise@scotland.gsi.gov.uk)

#### For queries on new buildings or conversions contact:

Building Standards Division  
Directorate of the Built Environment  
Denholm House  
Almondvale Business Park  
Livingston, EH54 6GA

E-mail: [info@sbsa.gov.uk](mailto:info@sbsa.gov.uk)

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Directorate for  
The Built Environment  
Building Standards Division



The Scottish  
Government