Keeping cosy – draught proofing, double glazing and insulation

Energy series

About two-thirds of heat from a typical hospitality building is lost through the building fabric, i.e. walls, ceilings and floors. Wrapping your building in a warm blanket will reduce the amount of heat you need. Insulating walls, floors and roof spaces and improving the performance of windows can result not only in money saving and better temperature control, but also increase comfort for guests.

Good insulation also decreases the risk of mould growth on walls and ceilings as less condensation is formed on a warmer surface.

Keep the heat in

- Make sure that windows and external doors are closed as much as possible when the heating is on.
- Close curtains and blinds at the end of the day, especially during winter months, to reduce draughts and retain more heat overnight. In summer the same process can help reduce heat in rooms that receive early evening direct sunlight.
- Curtains should be thermal lined and adequately cover the window to effectively insulate.
- Shutters are also effective at reducing heat losses, especially in historic properties.

Draught Proofing

When your building is draught-free, your heating system doesn’t have to work so hard. Draught proofing can be a cheap and effective way of saving some energy and improving overall comfort. Cold air gets in around doors and window frames, through keyholes and letter boxes, around loft hatches, floor boards and skirtings boards. Damaged or rotten door and window frames may also let air in.

Many draught proofing solutions are relatively low cost and easy to install.

<table>
<thead>
<tr>
<th>Area</th>
<th>Draught exclusion measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter box / door base</td>
<td>Brush strips</td>
</tr>
<tr>
<td>Doors / windows</td>
<td>Rubber or foam seals</td>
</tr>
<tr>
<td>Damaged windows</td>
<td>Silicone sealants</td>
</tr>
<tr>
<td>Keyhole</td>
<td>Keyhole covers</td>
</tr>
</tbody>
</table>

Do the 1 pence test: if a 1 pence coin can slide between a window and its frame, draught proofing will be cost effective and improve comfort.

MYTH – Small gaps around doors do not let in much cold air.
REALITY – A door with a 3mm gap will let in as much cold air as a hole in the wall the size of a brick.
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**Energy Efficient Windows**
Double glazing is a minimum requirement when replacing windows, and triple glazing can be even better.

**High performance and low emissivity glass**
High performance glass is coated to redirect heat back into a room or prevents heat / cold from entering from outside.

**The energy efficiency of windows** can be classified using an A to G rating, with A being the best. The rating takes into account coatings, triple glazing and evacuated cavities. As higher performing glass is more expensive, check energy saving properties against installation cost to get the best value.

![Energy Window](image)

**Loft Insulation**
Over 20% of heat in a building is lost through the roof. Adding insulation to your roof is one of the most effective energy saving measures you can take - particularly with pitched roofs. In fact, insulating loft spaces in a building could reduce heat loss by 25%, providing a payback in 1-4 years. You can also upgrade existing insulation in most lofts by adding to what is already there (providing it is in good condition and not damp). If there is less than 15cm of insulation, it is worth adding more.

There are several types of insulation which may be suitable for different methods of insulation, including mineral wool, sheep’s wool, blown insulation, and rigid insulation board.

For loft insulation 350mm thickness is recommended, ideally in 2 layers at 90 degrees to each other. Make sure the loft space above can still breathe to avoid moisture build up.

**Wall Insulation**
Around 9% of heat lost in a building is through the walls. Walls can be insulated through cavity wall insulation, external or internal wall insulation. The most appropriate insulation for your business will depend on the building fabric. Improving insulation is particularly cost-effective in cavity walls.

For solid walls, insulation behind plasterboard is very effective if there are no gaps. Ideally you should use 200mm of mineral wool or 100mm of urethane board. You can even buy urethane already bonded onto plasterboard. This is particularly suitable on ceilings below flat roofs too. Always ensure that the moisture removal system in your walls is not altered.

There can be opposition to insulating old properties, as this can cause moisture problems. These problems are normally associated with a lack of roof and gutter maintenance, which causes water ingress that is not picked up. Water ingress will always cause higher energy consumption as the water must evaporate off. Regulary maintain the roof and guttering, whatever the weather to avoid this.

**Floor Insulation**
Floors are often overlooked as an area for energy saving, but nearly 10% of heat lost from a building occurs via the ground floor.

**Further Advice**
For more information on how to improve your building’s energy efficiency see the Carbon Trust Technology Guide [www.carbontrust.com/resources/guides/energy-efficiency/buildings-energy-efficiency](http://www.carbontrust.com/resources/guides/energy-efficiency/buildings-energy-efficiency)

For further advice on cost-saving opportunities and what is appropriate for your business contact Resource Efficient Scotland, 0808 808 2268 or [www.resourceefficientscotland.com](http://www.resourceefficientscotland.com)

For more fact sheets and related sustainability information see [www.visitscotland.org/supporting-your-business/quality-customer-experience/sustainable-tourism](http://www.visitscotland.org/supporting-your-business/quality-customer-experience/sustainable-tourism)

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