



## Heat loss: The facts.

### U Values

A U value is a measure of heat loss. It is expressed in  $W/m^2k$ , and shows the amount of heat lost in watts (W) per square metre of material (for example wall, roof, glazing, and so on) when the temperature (k) is one degree lower outside.

The lower the u value, the better the insulation provided by the material.

The Building Regulations

<http://www.communities.gov.uk/planningandbuilding/buildingregulations> set out minimum requirements for all the elements of new buildings.

The u value currently required for a new-build external wall is approximately 0.3.

As a comparison, the u value of a straw-bale wall is 0.13, and of a solid 225mm (9") brick wall, around 2.0.

It's worth noting that the Building Regulations currently require a u value for glazing of 1.8 to 2.0. This is achieved with a double-glazed unit with an air gap of around 16 - 20mm and one pane of low emissivity glass, which lets light through, but tends to limit heat loss.

So when someone tells you how fantastic double glazing is, suggest a comparison with a solid brick wall, which is never considered to be well insulated!

The insulation value of a solid brick wall can be improved from  $U = 2.0$  to  $U = 0.35$  by lining the wall with approximately 60- 65mm (2") of high-grade insulated plasterboard.

Since 2006 you may well need Building Regulations approval for insulation improvements. **Ask at SYEC or check with your local council.**

**For more information about u values and insulation, contact SYEC on 0114 2584574 or e-mail [nick.parsons@syec.co.uk](mailto:nick.parsons@syec.co.uk)**