

The Visual Quality of Low Emissivity Glass



New thermal insulation regulations

The new part L (Conservation of fuel and power) of the building regulations came into force on 1st April 2002. For the first time, Part L covers replacement windows, which now have to meet more rigorous standards of thermal insulation. Without low emissivity (Low-E) glass in your windows, you have little prospect of meeting the new requirements.

What is low emissivity (Low-E) glass?

Low-E glass is a vital component of energy efficient windows. It has a surface coating that operates as follows:

It allows short wavelength heat from the winter sun to enter your home through the glazing.

This solar energy works with your domestic heating system to warm up your room, which then gives off long wavelength heat radiation.

A large proportion of that long wave heat would vanish back out through windows made of ordinary glass. However, the Low-E coating reflects that heat back into your room, ie the coating traps the heat in your home. As a consequence, you will feel much warmer during the winter, and your pocket will feel the benefit of reduced heating costs.

Will Low-E glass meet the Building Regulations?

Better than merely meeting the Regulations, Low-E glass is virtually essential to enable you to achieve the new targets.

Are there any disadvantages?

We have discussed the significant advantages to your pocket and comfort above. Given the substantial benefits of Low-E any disadvantages are insignificant. You are now having to use a coated glass and this means you can see evidence of the coatings in one or all of the following ways:

As a tint, making some materials appear differently when viewed directly through the glass.

As a 'haze', when viewing the glass at some angles and in some lighting conditions.

By the appearance of condensation on the outside surface of the glass under certain weather conditions. This being positive proof that glass is preventing heat loss from your house. As the glass is becoming colder than normal and allowing dew to form.

It may also be possible that Low-E glass may exhibit minor blemishes and the tint may also change if windows are made at different times or from different batches of glass. These are not detrimental to the functioning of the unit and are not deemed to be a defect.

How is visual quality assessed?

The visual quality of a window is assessed by looking through it from the room side, at right angles to the glass, standing at a distance of not less than 3 metres from the glass, under natural daylight and not direct sunlight, with no visible moisture on the surfaces of the glass. Provided your vision through the glass is not impeded under these conditions, for example by scratches, bubbles, or distortion of external objects, your windows are of good visual quality.