

**Head Office:** 60/70 Broad Lane, Sheffield S1 4BT  
Tel (0114) 281 3333 Fax (0114) 281 0555  
**Factory:** Hanover Works, Scotland Street, Sheffield S3 7BX  
Tel (0114) 276 6141 Fax (0114) 276 6143  
**Showrooms:** 216/218 Oakbrook Road, Sheffield S11 7ED  
Tel (0114) 230 9989 Fax (0114) 230 9738  
Also at:  
7 Rockingham Street, Sheffield S1 4EA  
Tel (0114) 281 3434 Fax (0114) 281 0555  
**Website:** [www.sheffield-window-centre.co.uk](http://www.sheffield-window-centre.co.uk)



**SHEFFIELD  
WINDOW  
CENTRE**  
*(Manufacturing)*

Windows, Doors, Porches  
and Conservatories  
manufactured in PVCu,  
craftsmen designed to suit  
your requirements

## GLASS VISUAL QUALITY

**Glass is a highly processed material and therefore some imperfections are to be expected. If you wish to determine whether a glass unit meets the required standard an assessment should be carried out as per the guidelines below:**

- The unit should be viewed from 3 metres away and where it is not possible to stand at the correct distance, the unit should be viewed from as far away as possible.
- The inspection should only be carried out in natural daylight, but not directly towards the sun and with no visible moisture on the surface of the glass.
- Exclude the 50mm round the edge of the glass where the edge deletion has taken place.
- Glass should be viewed at an angle of 90 degrees.

Glass is deemed as acceptable if the following are neither obtrusive nor bunched; bubbles, blisters, fine scratches less than 25mm long and minute particles.

Toughened glass may show visual distortions which are accentuated by reflections in sealed units, this is a natural phenomenon and not a fault.

Laminated glass may have a few more blemishes due to it being made of several layers.

Our standard energy saving glass may produce some transient visual effects. In some lighting conditions the coating may look like a transparent film or produce a haze, i.e. a cloudy look to the surface and when light coloured objects are placed close to the glazing they may look slightly darker.

### External condensation

From time to time, we receive enquiries about the appearance of external condensation on glass. This is a naturally occurring phenomenon which is more prevalent the more highly insulating your windows are and is not a fault in the glass or window.

Moisture condenses out of the air onto a cold surface that is said to be below the dew point. The dew point varies with the air temperature and the amount of moisture it contains. Particularly in spring and autumn, the glass temperature can fall to a low level during the night and the dew point can be comparatively high in these seasons. The glass temperature can be below the dew point under these conditions and moisture can condense onto the surface.

In order to save energy, maintain a comfortable internal environment and satisfy building regulations requirements, the windows we fit in our homes are much more thermally efficient than in the past. With single glazing and older style double glazing, a large proportion of heat was lost to the outside through the glass. With modern low emissivity glass, more of the heat is kept inside and the outer pane is not heated as much.

The more thermally insulating the glass is, the lower the outer pane temperature is likely to be and the greater the risk of condensation on the external surface. In northern European countries, where levels of thermal insulation are higher than in the UK, the phenomenon is understood and accepted.

There is not much that can be done to avoid the risk of condensation to the outside. In many cases the condensation does not last long. A little heat from the sun warms the outer glass enough to evaporate the moisture and a gentle breeze or wind will help.

You may notice that not all of the panes are affected by early morning condensation, even in the same window. Subtle differences in orientation and the position of objects outside the window can change the surface temperature of the glass to the point that one pane suffers and another does not. Any object such as a canopy or tree blocking off the window to a clear night sky will also reduce the effect.

The plus point is the knowledge that your windows are keeping the heat in as they are designed to do, proving that you have a superior insulating glass product.

### Brewster's Fringes – The Rainbow Effect

Small transitory rainbow effects are sometimes produced by the glass refraction of light. Their appearance is due to high quality flat glass sheets being placed parallel to each other.

