National Federation of Glaziers

Excellence and Integrity in Glazing

A Guide to acceptable standard for glass sealed units

Insulated Glass Units (IGU) commonly known as "Double Glazing" provide a high standard of vision. The following is a guide to the quality that can be expected.

Viewing IGU's for scratches on the outer faces of the panes must be carried out before any rendering, plastering or other works adjacent to the glazing takes place, and as early as reasonably practical following installation.

How to check whether a piece of glass is to an acceptable standard

Stand in the room no less than 2 metres away from the IGU and **look directly through** them

1. For toughened, laminated, or coated glasses, stand no less than 3 metres away.
2. Do so in natural daylight, but not directly towards the sun and with no visible moisture on the surface of the glass.
3. Where it is not possible to stand at the right distance then stand as far away as you can from the IGU.
4. Exclude 50mm wide band around the edge of the glass from the check.
5. Glass must be viewed at 90 degrees to the window.

What to expect when viewed as described flat transparent glass, including laminated or toughened (tempered) or coated glass is acceptable if the following are neither obtrusive or bunched:-

6. Bubbles or blisters.
7. Fine scratches not more than 25mm long.
8. Miniature particles.

The obtrusiveness of blemishes is judged by looking **through the glass, not at it**, under natural light. It must be understood that the glass used in double glazing is a processed glass, and so as a consequence, blemishes are to be expected. Insulating glass units with optical defects such as smears, finger prints or other dirt on the cavity faces of the glass, or extraneous material in the cavity are unacceptable, except in some cases where small particles of desiccant can be seem.

Special glasses Toughened glass may show visual distortions which are accentuated by reflections in double glazing. Such surface colourations and patterns do not indicate a change in physical performance. Laminated glass may have a few more blemishes due to it being made of several layers.

Low emissivity coating may produce transient visual effects. In some lighting conditions the coating may look like a transparent film or produce a haze, i.e. a cloudy look on the surface.

When light coloured objects such a net curtains are placed close to the glazing they may look slightly darker.

Double reflection This occurs in certain light conditions. It is caused by multiple surface reflections in double glazing which may vary from pane to pane.

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.

Patterned glass The above does not apply to patterned glass as its manufacturing process is different.

This Guide is based upon the **Glass and Glazing Federation "Quality of Vision"** publication which is the established standard for acceptable quality for glazing.