

# GLASS STANDARDS



Yorkshire  
Windows

# Visual quality standard for installed insulating glass units constructed from flat transparent glass.

**As used by the Glass & Glazing Federation, and accepted as the standard for the inspection of flat glass. Our glass suppliers products are inspected using the same criteria as toughened products.**

1. Transparent glass used in the manufacture of insulating glass units, is identical to that used traditionally for single glass, and will therefore have a similar level of quality.
2. Both panes of the sealed unit shall be viewed at right angles to the glass from the room side, standing at a distance of not less than 2 meters (but for toughened, laminated or coated glass), not less than 3 meters, in natural daylight and not in direct sunlight, with no visible moisture on the surface. The area to be viewed, is the normal vision area with the exception of a 50mm wide band around the perimeter of the unit.
3. Flat transparent glass, including laminated or toughened glass, shall be deemed acceptable if the following phenomena are neither obtrusive nor bunched:  
Totally enclosed seeds, bubbles or blisters, hairlines or blobs, fine scratches not more than 25mm long, minute embedded particles. Obtrusiveness of blemishes shall be judged by looking through the glass, not at it, under light conditions described in paragraph 2.
4. When thermally toughened glass is reviewed by reflection, the effect of the toughening process may be seen under certain light conditions. The visibility of the surface colouration or patterns does not indicate physical deterioration in the physical performance of the toughened glass, because of the nature of the toughening process, distortion will be accentuated, when the glass is viewed in reflection, or incorporated in insulated glass units.

5. Visual double reflection can occur under certain lighting aspect conditions, especially when viewed from an angle. This is an optical phenomenon arising from multiple surface reflections in sealed units.
6. The manufacture of flat laminated glass does not usually effect the visual quality of the glass incorporated in insulated glass units. However, the faults generally accepted in paragraph 3 may be increased in number if several glasses and interlayers are used, in the protection of laminated glass. When viewed under certain light conditions, insulated glass units incorporating clear or tinted flat laminated glass, may show a distortion effect caused by reflection on the multiple surfaces of the components of the laminated glass.

**Note: Patterned glass – the above criteria does not apply to patterned glass, due to the method of manufacture. Imperfections such as seeds and bubbles are deemed to be acceptable.**

## Edge Condition

Smooth ground edges giving a flat profile with small ground arris, shells or chips at edges will be ground out prior to toughening and do not constitute a reason for rejection. Corners may be dubbed. Some variation in edgework may be discernable on exposed edges where different machine and/or hand forming is a requirement for manufacture. Such variations shall be kept to a minimum.

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