



Introduction

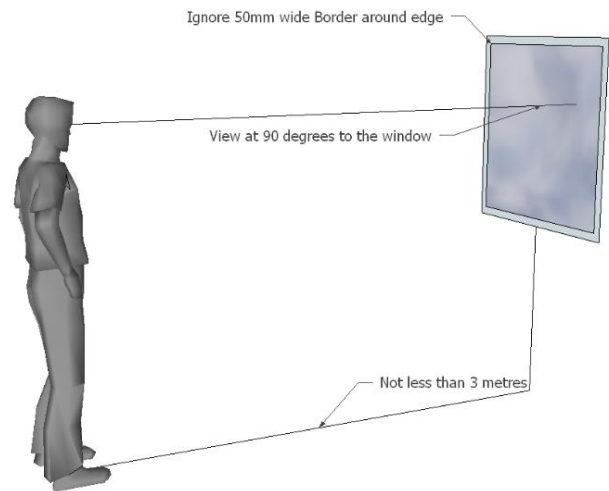
Glass and insulated glass units (IGU's) are manufactured products. As with all manufactured products there is no such thing as perfect, they all conform to acceptable tolerances. This guide provides information to consumers purchasing windows as to acceptable glass tolerances and the method of determination of acceptable industry standards.

Checking Criteria

The following checks are carried out by a person with standard vision without the aid of magnifying devices or strong light sources, e.g. arch lamps. Standard vision of a person is determined by highway code requirements:

Able to read if car number plate at 20 metres, it is fine if prescription glasses or contact lenses are required to read it.

1. Window is viewed from within the room at a distance of at least 3 metres from the window.
2. The window should be viewed at an angle of 90 degrees, i.e. looking straight at it not at an angle.
3. Look through the centre of the glass pane, not at it, for a period of not more than 20 seconds, ignoring the 50mm border around the edge of the glass panel.
4. Viewing should be without strong light sources, in natural daylight without it being directly into the sun.
5. The surface of the glass must be dry.



Acceptable Surface Tolerances

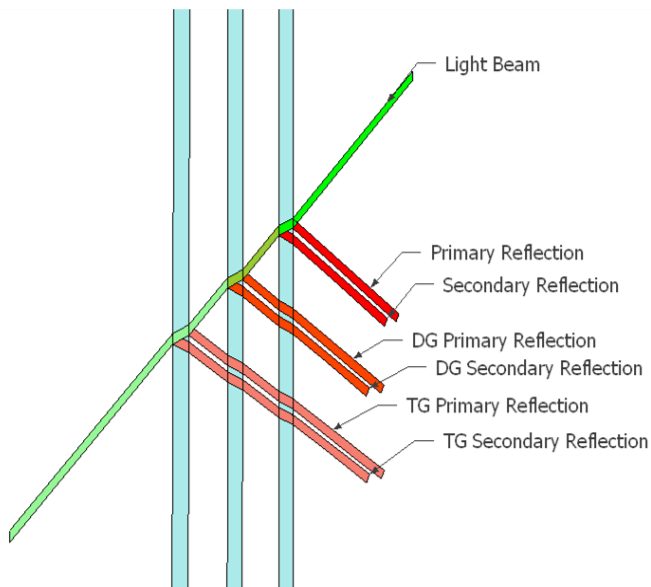
If you are able to view some slight bubbles, blisters, scratches or particles, these are acceptable so long as:

- They are not bunched together or obtrusive
- Scratches are less than 25mm

Acceptable Visual Effects

Light passing through multiple glass panes will cause some visual effects at times. The following are normal and acceptable conditions.

1. Coating used on glass to improve its thermal performance may cause a slight haze to glass finishes making net curtains look slightly darker.
2. Reflections and double reflections may be viewable in certain light conditions, this may be extenuated with triple glazed units due to the extra pane of glass.
3. An IGU is sealed and is subject to thermal expansion and contraction, this may cause glass panes to distort slightly during temperature changes.
4. There may at times be a slight rainbow effect of the glass due to light refraction.



Multiple Glazing

All glass will provide a reflection. There are normally two reflections, one from the front surface of the glass and one from the rear surface, these are normally too close together to create any distortion (thicker glass may do this). However, as you add additional panes (double glazing, triple glazing etc), then even more reflections are added.

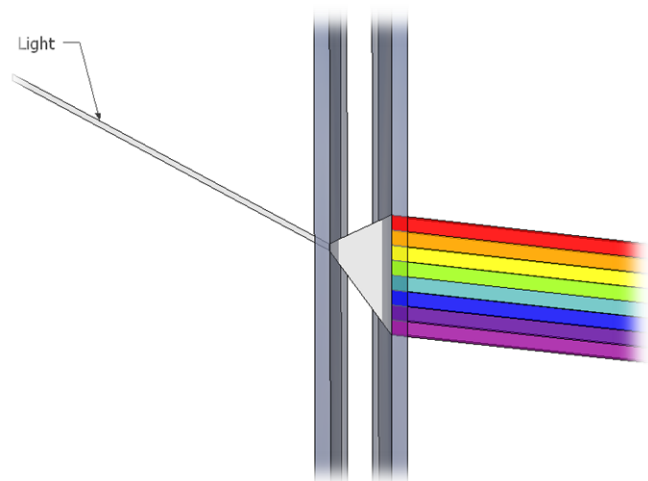
As these multiple reflection images are received by the human eye, they are perceived to be a single distorted image that is perceived to be a glazing manufacturing problem but is in fact the normal effect of light incidence, light refraction and light reflection.

Natural refraction of light through glass objects can cause rainbow effects to be seen.

Toughened Glass

Owing to the manufacturing process of toughened glass, where the glass is heated to high temperatures and then cooled rapidly whilst on a bed of rollers, this can cause slight imperfections known as roller wave distortion. A ripple effect may be seen in the glass where the glass may have sagged between the rollers.

This is a normal outcome, however, as the thickness of the glass increases the risk of this imperfection is decreased.



We hope you have found this useful and informative.....

If there are any topics that you think would you would benefit from, please let us know as soon as possible and if possible, we will add them to the agenda.