

Roller Wave Distortion

TOUGHENING

Definition

As per EN 12150 roller wave distortion is surface distortion by a reduction in surface flatness.

This distortion is produced in horizontally toughened glass as a result of the glass being in contact with the rollers during the toughened process and is visible on all toughened safety glass.

Figure 1: Roller Wave Distortion

Measurement

The roller wave is measured by means of a straight edge, or equivalent, being placed at right angles to the rollers and bridging from peak to peak.

- Measurements can only be taken on panes with a dimension of greater than 600mm measured at right angles to the roller waves.
- Measurements should not be within 150mm from the glass edge.
- A zebra board is also used at the back of the furnace as a visual inspection guide.

Figure 3: Measurement of Roller Wave Distortion

Figure 2: Zebra Board

Tolerances

A maximum roller wave of 0.3mm is allowed on uncoated glass and 0.5mm is acceptable on Low E glass.

Please note when toughened safety glass is used in double glazed units, the roller wave distortion will appear worse due to the position of the roller wave being different on the two panes of glass.

The visual distortion will be at its worse in a double glazed Low E unit with one layer of Low E glass, however the glass may still be within the allowable tolerance.

Figure 1: Roller Wave Distortion



1. Thermally Toughened Glass

Figure 2: No Roller Wave as Zebra Lines are Straight

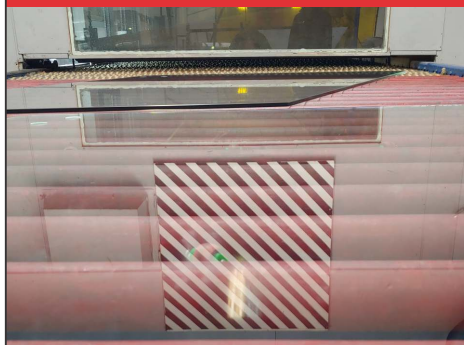
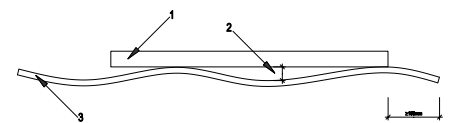


Figure 3: Measurement of Roller Wave Distortion



1. Straight Edge
2. Roller Wave Distortion
3. Thermally Toughened Glass