

# CHEVRON GLASS PTY LTD

## PRODUCT ACCEPTANCE STANDARD FOR INSULATED GLASS UNITS

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### **1. STANDARDS COMPLIANCE**

Chevron Insulated Glass Units are supplied in accordance with this Product Acceptance Standard and conform to the following Australian Standards.

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|-------------------|--|
| AS/NZS 2208: 1996 | - "Safety Glazing Materials in Buildings"                    |
| AS/NZS 2080: 2006 | - "Safety Glass for Land Vehicles"                           |
| AS1288: 2006      | - "Glass in Buildings-Selection & Installation"              |
| AS/NZS 4667: 2000 | - "Quality requirements for cut to size and processed glass" |
| AS/NZS 4666: 2000 | - "Insulated Glass Units"                                    |

A Certificate of Compliance can be supplied on request.

### **2. IDENTIFICATION**

All Chevron Insulated Glass Units are supplied with marking on the spacer bar which verifies manufacture by Chevron Glass, reference to AS/NZS 4666 standard certification, and the date of manufacture.

All toughened glass panels incorporated into Chevron Insulated Glass Units will be supplied with an appropriate Chevron Glass stamp or label.

This stamp/label verifies glass manufactured by Chevron Glass, our licence number, glass thickness and conformity to AS/NZS 2208 or AS/NZS 2080 standards certification.

Where a stamp is not required on toughened glass panels, this must be specified by the customer at the time of order placement.

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### 3. SIZE RANGE

- Minimum unit size 180 x 350mm.
- Maximum unit size 2500 x 3500mm.

### 4. MINIMUM CHARGES

A minimum invoice value applies.

A minimum price per panel applies.

A minimum charging size of 0.3m<sup>2</sup> per unit applies.

Surcharges apply for argon filling, simple shaped units and stepped units.

### 5. DIMENSIONAL TOLERANCES

#### 5.1 STANDARD THICKNESS TABLE

<b>Dimensional Tolerances for Annealed / Heat Strengthened/ Toughened Glass Components</b>		
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Glass Thickness		Dimensional Tolerance
Nominal	Range	
3mm	2.8 – 3.2mm	<u>±2.00mm</u>
4mm	3.8 – 4.2mm	<u>±2.00mm</u>
5mm	4.8 – 5.2mm	<u>±2.00mm</u>
6mm	5.8 – 6.2mm	<u>±2.00mm</u>
8mm	7.7 – 8.3mm	<u>±2.00mm</u>
10mm	9.7 – 10.3mm	<u>±2.00mm</u>
12mm	11.7 – 12.3mm	<u>±2.00mm</u>

5.2 THICKNESS TOLERANCE: Overall thickness of unit ± 2.00mm

5.3 MISMATCH/STEP: To be within limits of individual sheet. Bottom edge to have 1.00mm maximum step.

5.4 SQUARENESS: Maximum deviation from square should not be greater than 5mm for a panel with the largest dimension less than 1200mm or 10mm if the largest dimension is greater than 1200mm when measured across the diagonals within the size tolerance as per table.

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5.5 BOW: Localised bow is not to exceed 1.00mm over any 200mm span. Overall bow and warpage as per table.

<b>Overall Bow (Flatness) Limits of Components</b>			
<b>Glass Thickness</b>	<b>Horizontal Glass Dimension</b>		
	<b>0 to 1500</b>	<b>1501 to 2500</b>	<b>&gt;2501</b>
3mm	1 in 500	1 in 500	
4mm	1 in 500	1 in 500	
5mm	1 in 750	1 in 500	1 in 575
6mm	1 in 750	1 in 500	1 in 575
8mm	1 in 1000	1 in 625	1 in 700
10mm	1 in 1000	1 in 850	1 in 700
12mm	1 in 1000	1 in 1000	1 in 875

## **6. SURFACE QUALITY**

Scratches to the primary vision area are unacceptable if visible from a distance of 3m. If detailed inspection is required, glass shall be viewed in a perpendicular position using a daylight background. Glass panels requiring this degree of inspection should not be viewed when they are standing in direct sunlight and the viewing period shall not be more than 60 seconds.

### **6.1 ROLLER WAVE DISTORTION**

- An inherent consequence of the heat treatment process is roller wave which is caused by the heated, slightly softened glass being in continual contact with the oscillating ceramic rollers. This distortion is more noticeable in reflective or dark tinted glasses and if applicable, the direction of roller wave should be specified.
- Roller wave on heat strengthened and toughened laminated glass not to exceed 0.15mm over 300mm.
- Edge kink not to exceed .25mm in 300mm.

## 6.2 VISUAL QUALITY

### PILLOWING

Pillowing is a result of changes in internal and external temperature and pressure. This effect is unavoidable and therefore considered acceptable.

### NEWTON'S RINGS

Newton's Rings is a visual effect consisting of irregular coloured circles similar to a rainbow or oil stain on the glass. They occur near the centre of large insulating glass units when changes in atmospheric pressure cause the glass to deflect to the point where each pane touches. It may indicate that the spacer width is too small, the internal pressure and /or the glass thickness is insufficient.

### BREWSTERS FRINGES

Brewsters Fringes is a visual effect with the appearance of a rainbow within an insulating glass unit. It is not a fault in the unit or the glass. It can occur only with high quality float glass insulated glass units as a consequence of using two glasses of exactly the same thickness and precise parallel (flat) surfaces. The multiple reflections of light within one glass can combine with the reflection within the other glass to form faint coloured bands of irregular shapes.

Brewsters Fringes can occur anywhere on the surface of the glass and can be avoided by using different thickness glass in each lite.

## 7. EDGE QUALITY

### 7.1 CLEAN CUT

Maximum shelling to be no more than 50% of the total substance thickness.

### 7.2 ARRISSED EDGE

Chips and shells are acceptable provided they:

- Extend no greater than 5mm from the edge of the glass.
- Do not exceed half the glass thickness.
- Are not vented.

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## 7.3 FLAT SMOOTH / FLAT GROUND EDGE

No shells are permitted.

Grind marks are permitted but must be of light intensity (not visible at greater than 900mm).

Chips and shells are acceptable provided they:

- Extend no greater than 2mm from the edge of the panel.
- Extend no greater than 2mm into the glass thickness.

## 7.4 FLAT POLISHED EDGE

Finish and arris must be uniform.

Chips and shells are not permitted.

Polish marks are permitted but must be faint.

## 7.5 MITRED EDGE

As for flat smooth / flat ground edge (7.3).

Vented edges are not permitted.

## 8. CRACKS

Cracked or broken panels are not acceptable.

## 9. SPACER BAR

	<b>Bite</b>	<b>Sight Line</b>
<b>Domestic</b>	3.00mm ± 1.00mm	11.00mm ± 1.00mm
<b>Commercial</b>	7.00mm ± 2.00mm	15.00mm ± 2.00mm

Spacer bar bow            1.0mm per metre.

Kinks in spacer bar      Unacceptable in aluminium spacer bar.