

CYCLONE RESISTANT GLAZING

Cyclone resistant glazing

This bulletin summarises the changes to AS / NZS1170.2 and the impact on the glass industry.

This standard indicates that internal walls and ceilings are subject to a proportion of the external wind induced pressure unless the entire building envelope including windows, doors and cladding up to a height of 25 metres can be shown to be capable of resisting impact from wind-borne debris loadings as determined by this standard.

The impact loading from wind-borne debris can be significant with projectile speeds up to 30.8 m/s for Region C and up to 39.6m/s in Region D applicable depending on the building importance level.

This is considerably more stringent than the previous version of this standard which had a projectile speed of 15m/s. It should be noted that doubling the projectile speed has a fourfold increase in the impact energy.

The options available to comply with this standard for the glazed portion of the building include:

1. Install a tested debris resistant impact screen over the windows and doors.
2. Install a tested cyclone resistant window & door system.

3. Install standard window and doors to meet the required wind loading and design for dominant opening internal pressures.

To comply with this standard the tested window and door system may require thicker glass with a more complex make up than required to meet the previous standard. The frame type and engagement within the frame is also more critical. Compliance with the National Construction Code energy requirements may also be made more difficult.

It should be noted that a failure of a window latch, flashing, roof sheeting, cladding material, garage door or sky-lite would be regarded as a dominate opening and may influence internal pressures.

Considering all this except for some specialised applications, it appears that option 3 is considered by designers and builders as the most cost effective solution to comply with this standard.

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