



KEY MESSAGE

GUIDE TO EXTERNAL CORNER WINDOW AND DOOR PRESSURES IN HOUSING - AS 2047:2014

AS 2047 was re-published in 2014 to align wind pressures for housing, including cyclonic regions, with AS 4055 Wind Loads for Housing. One significant change is the requirement to consider higher performing windows in external corner situations.

CORNER ZONES AND WIND PRESSURE

As wind flows over, and around a building, it exerts pressure on the building itself, creating high pressure on the windward side, and low pressure (suction) on the downwind side.

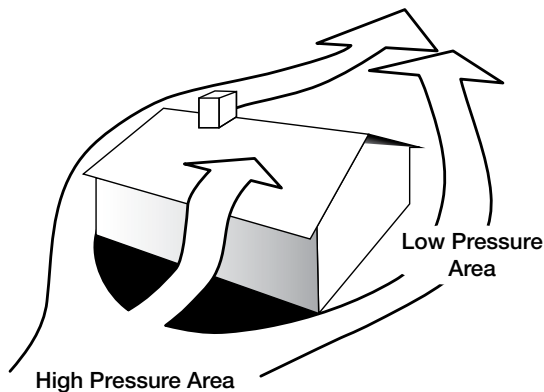


Figure 1 Airflow around a House.

These pressure differentials can be significantly higher near the corners of the building. As wind velocity increases at the leading edge, vortices are produced on the leeward side. It is therefore important that windows and doors situated near corners be capable of withstanding the higher wind loads encountered.

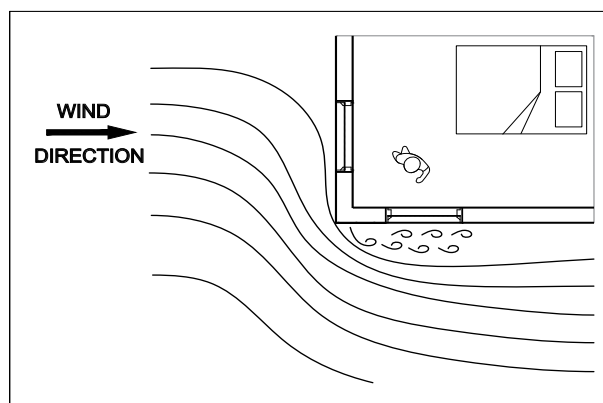


Figure 2 Airflow Around a Corner Zone.

Corner Zones, (shown in red in **Figure 3**) occur where walls intersect at an angle of less than 135 degrees (as measured from the inside of the building) .

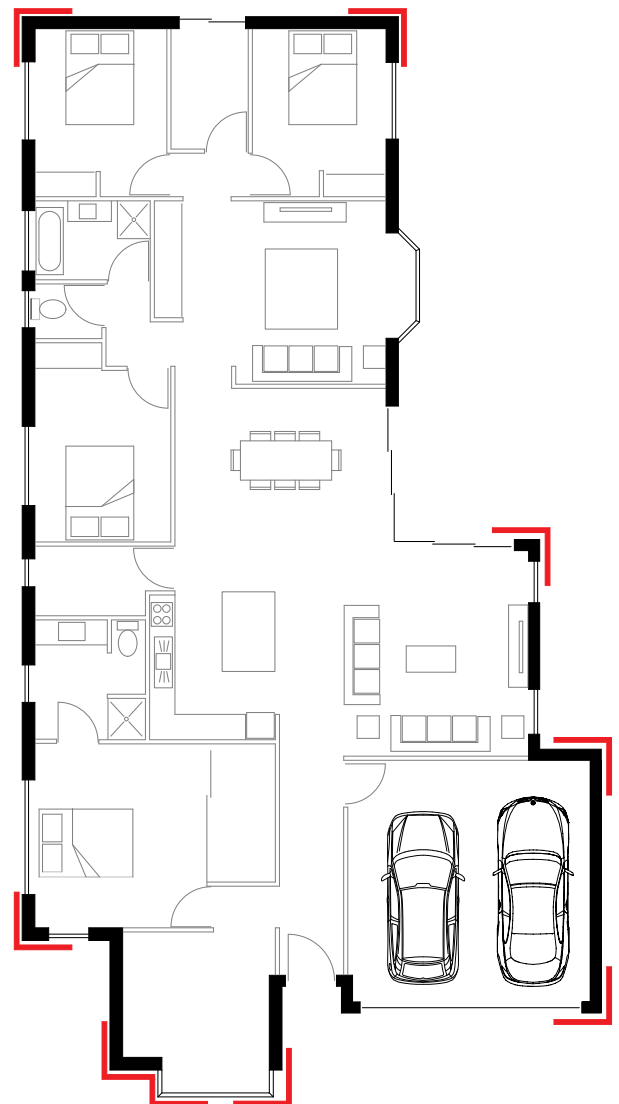


Figure 3 Corner Zones.



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WHAT IS A CORNER WINDOW?

Corner windows and doors are defined as having 25% or more of **any** panel or pane within 1200 mm of an external corner of the building.

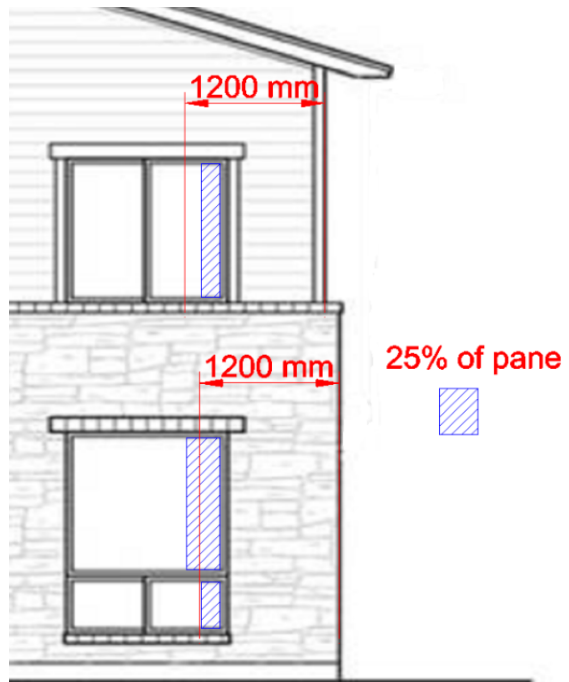


Figure 4 Corner Windows.

Both windows, as shown above in **Figure 4**, have 25% or more of a pane within the corner zone.

IMPORTANT NOTE:

The provisions in this Key Message relate to HOUSING as defined in AS 4055. The wind load requirements for residential and commercial buildings may be different and are determined by the building designer.

DISCLAIMER:

This key message has been developed to provide general guidance, awareness and education to AWA members only. It should not be viewed as a definitive guide and should be read in conjunction with AS 2047:2014 and AS 4055:2012. Whilst every effort has been made to ensure the information is accurate the AWA expressly disclaims all and any liability to any person for anything done in reliance on this publication. No responsibility is accepted by the AWA for any mistakes, errors or omissions in this publication.

SLS & ULS FOR CORNER WINDOWS

Serviceability and Ultimate Limit State pressures for houses are nominated in AS 2047 and are summarised in **Table 1**.

Table 1 Window Rating Test Pressures.

Window Rating	Serviceability Limit State (SLS) Pressure, Pa		Ultimate Limit State (ULS) Pressure, Pa	
	General	Corner	General	Corner
N1	400	600	600	900
N2	400	600	900	1300
N3	600	800	1400	2000
N4	800	1200	2000	3000
N5	1200	1800	3000	4500
N6	1600	2500	4000	6000
C1	600	800	1800	2700
C2	800	1200	2700	4000
C3	1200	1800	4000	4900
C4	1600	2500	5300	8000