

AS 2047 was re-published in 2014 and updated to ensure alignment with AS 4055 Wind Loads for Housing. One significant difference with this change is the requirement to consider windows with higher water penetration resistance for exposed locations.

Definition of Exposed Sites

AS 2047: 2014 Clause 1.3.7 defines an exposed site as a site where one or more of the following AS 4055 site conditions are met:

- a. Terrain category TC2 or less.

The site of a house is given a Terrain Category TC1 to TC3 which takes into account the number of obstructions within a radius of 500 m, such as trees and houses, which can substantially reduce wind speed.

A site is considered as exposed when located in open terrain with few or no permanent obstructions including



Figure 1: Enclosed Water Surfaces. Includes rivers, canals, lakes & enclosed bays, extending more than 200 m.



Figure 2: Open Water and Ocean

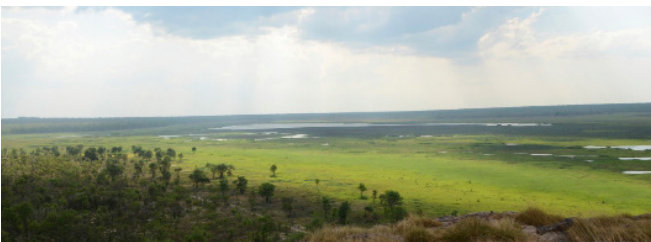


Figure 3: Farm Land and Flat Plains

- b. Topographic class T3 or greater.

A house site located on a hill, ridge or escarpment experiences different average wind speeds depending on the height and steepness of the incline and whether the house is located near the base, middle or top.

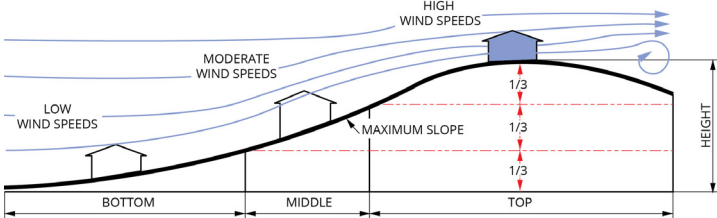


Figure 4: Topographic Class Diagram

Topographic Class T3 and higher applies when the site is located on the top third of a hill or escarpment that

- has a maximum slope greater than 1:3 or 18.4° (and includes the over the top zone which extends 4 times the height of an escarpment).
- is between 10 m and 30 m high with a maximum slope greater than 1:5 or 11.3°.
- is greater than 30m high with a maximum slope greater than 1:7.5 or 7.6°.

Maximum Slope	Top Third Zone (height in metres)			Over the Top Zone
	< 10 m	<30 m	>30 m	
>1:7.5 (7.6°)	T2	T2	T3	T1
>1:5 (11.3°)	T2	T3	T4	T2
>1:3 (18.4°)	T3	T4	T5	T3

Table 1: Topographic Class Definitions

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c. No Shielding

Shielding affects wind speed. It is also dependant on the number and size of obstructions, but is a more local effect than is considered when assessing the terrain category.

No shielding shall apply where there are no permanent obstructions (which are of a similar size to the house) to impede wind speed or where there are less than 2.5 obstructions per hectare, such as the row of houses or single houses abutting open parklands, open water or airfields.

If the window is protected from driving rain by elements of the building such as a wide veranda, a lower level of water penetration resistance may be specified in the design as part of an alternative solution.

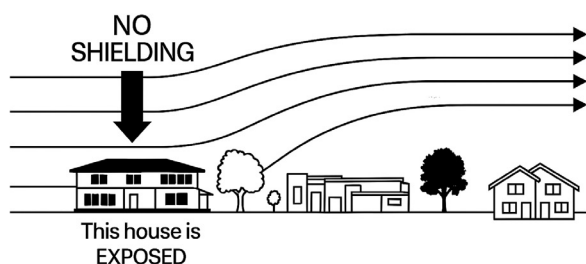


Figure 5: Exposed House

Site Classification must be conducted by a suitably qualified person in accordance with the methodologies outlined in AS 4055: 2021. Nomination of window ratings or design wind pressures for each window and door assembly should be provided by the purchaser or building designer and include exposure classification.

What are the new requirements?

Clause 2.3.1.6 of AS 2047

If a building is in an exposed site and is likely to be subjected to driving rain, the exposed level of water penetration resistance should be specified in the design.

The exposed levels of water penetration resistance are further defined in Table 2.

Rating	Non-exposed (Pa)	Exposed (Pa)
N1, N2	150	200
N3, C1	150	300
N4, C2	200	300
N5, C3	300	450
N6, C4	450	600

Table 2: Water Penetration Resistance Test Pressures

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IMPORTANT NOTE: The provisions shown in this Key Message relate to housing as defined in AS 4055. The water penetration requirements for residential and commercial buildings are different and are required to perform to a minimum of 30% of the positive Serviceability as nominated by the building designer.