

TECHNICAL FACT SHEET

Wind Loads for Housing



AS 2047: 2014 provides performance criteria for windows in all buildings. These requirements are divided into two categories based on building type and purpose:

- Clause 2.3.1 Housing.
- Clause 2.3.2 Residential and Commercial.

The purpose of this key message is to explain the distinct differences in performance requirements between the two and provide guidance as to what constitutes a house under the Standard.

Definition of Housing

For the purposes of this Standard, Housing is defined as a Class 1 or Class 10 building as defined by the National Construction Code (NCC) with the following geometric limitations specified in AS 4055.

IMPORTANT NOTE: Buildings that do not meet these definitions and geometric limitations are either Residential or Commercial buildings meaning N and C ratings do not apply. Wind loads for Residential and Commercial buildings are determined using AS/ NZS 1170.2.

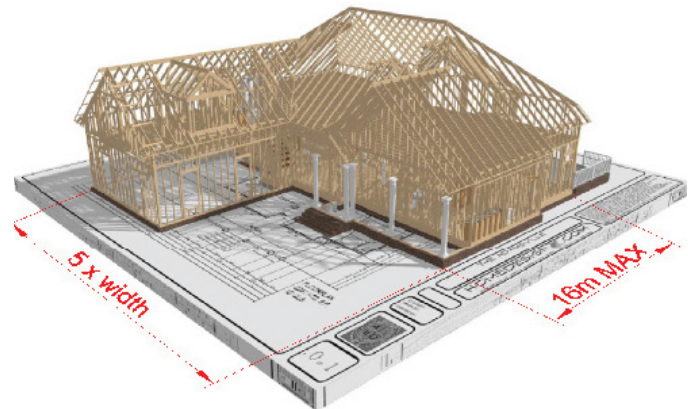


Figure 1: The width of the building shall not exceed 16 m, and the length shall not exceed 5 times the width.



Figure 2: The distance from ground level to the underside of the eaves shall not exceed 6.0 m.



Figure 3: The distance from the ground level to the highest point on the roof shall not exceed 8.5 m.

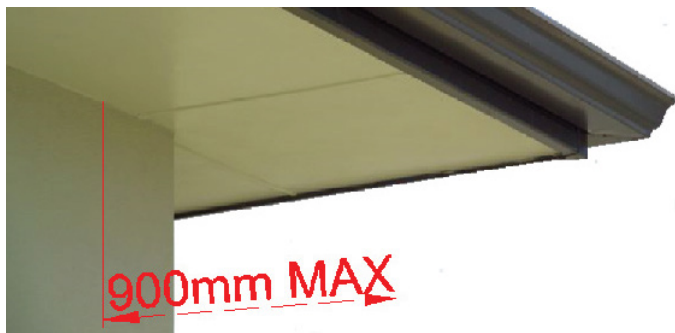


Figure 4: The width of the eaves shall not exceed 900 mm.



Figure 5: The roof pitch shall not exceed 35°.

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Performance Requirements for Housing

House sites are categorised into six levels for non-cyclonic regions (N-ratings) and four levels for cyclonic regions (C-ratings) based on geographic location, topography and the effects of shielding that determine the likely wind loads.

Clause 2.3.1 of AS 2047: 2014 provides the minimum performance requirements for housing, as summarised in Table 1 below, which is a consolidation of Tables 2.1, 2.4 and 2.5 of the Standard.

Nomination of window ratings or design wind pressures for each window and door assembly should be provided by the purchaser or building designer when ordering the window assemblies. Information provided should include any exposure and corner window classifications.

The manufacturer of the window assemblies should verify that they meet the window rating or design wind pressures as provided by the purchaser.

Site Classification must be conducted by a suitably qualified person in accordance with the methodologies outlined in AS 4055: 2021. AGWA provides assessment tools, AS 4055 Tools for this purpose, which allows qualified individuals to undertake assessments of building sites using an online calculator and Google Earth.

An online course is available through the Australian Fenestration Training Institute and is a pre-requisite for access and use of the AS 4055 Tool.

Window Rating	Serviceability Limit State (SLS) Pressure, Pa		Ultimate Limit State (ULS) Pressure, Pa		Water Penetration Resistance (WPR) Pressure, Pa	
	General	Corner	General	Corner	Non-Exposed	Exposed
N1	400	600	600	900	150	200
N2	400	600	900	1300	150	200
N3	600	800	1400	2000	150	300
N4	800	1200	2000	3000	200	300
N5	1200	1800	3000	4500	300	450
N6	1600	2500	4000	6000	450	600
C1	600	800	1800	2700	150	300
C2	800	1200	2700	4000	200	300
C3	1200	1800	4000	5900	300	450
C4	1600	2500	5300	8000	450	600

Table 1: Housing Performance Requirements.