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HOW TO CALCULATE WIND SPEED

Guide Only

To calculate wind speed you can refer to the attached diagram/table.

Firstly you need to be aware that Albany is located within Region "A" which is classed as being "Normal".

To work out the wind classification follow the following steps:

1. Go to *attached example* and work out your Terrain Category, Shielding and Topography. An example has been included on how to calculate this.
2. After which you go to the below table and work out the appropriate (N) classification. This being the code you circle on your building licence application that you are submitting.

   Reproduced from Building Code of Australia Volume 2.

Table 1.1.1

DESIGN WIND SPEED – EQUIVALENT VALUES

Note:

1. Wind classification map identifying cyclonic areas (as per AS 4055) is contained in Part 3.10.1.
2. Information on wind speeds for particular areas may be available from the *appropriate authority.*

Housing Provisions description	**EQUIVALENT VALUES**		
	Wind Class – AS 4055		**Design gust wind speed (m/sec)**
	km/h	For non-cyclonic regions A	Permissible stress method only
W28	101	N1	28
W33	119	N2	33
W41	148	N3	41

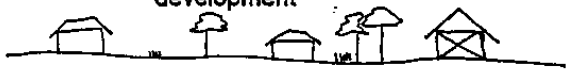
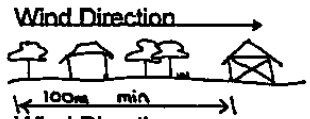
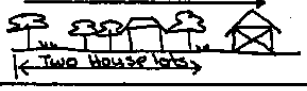
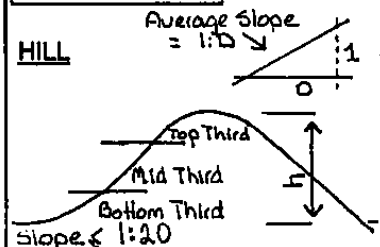
More Information

For further information in relation to Wind Design Standard refer to Australian Standard 4055-1992 or consult a Structural Engineer.

WIND DESIGN STANDARD (continued)

The following example has been reproduced from "Universal Texts 1998"

EXAMPLE ONLY

1.	REGION A - BASIC WIND VELOCITY. 41 m/ sec (N3)	41	41
2.	**TERRAIN CAT** CAT. 2 Wind Direction → Few well scattered constructions in direction of wind, open fields, water surfaces, grasslands  CAT. 2.5 Wind Direction → Protected for 500m with few trees & isolated obstructions typical acreage development  CAT. 3 Wind Direction → Protected for 500m by 10 houses size object per Ha in direction of wind 	0.92 0.84 0.76	X 0·76
3.	**SHIELDING** NO SHIELDING (NS) No protection in direction of wind Wind Direction →  PARTIAL SHIELDING (PS) 2.5 House size objects / Ha in direction of wind Wind Direction →  100m min FULL SHIELDING (FS) 10 House / Ha in direction of wind Wind Direction →  Two house lots	1.0 0.95 0.85	X 0·85
4.	**TOPOGRAPHY** HILL  Average Slope = 1:10 Top Third Mid Third Bottom Third Slope ≤ 1:20 • If Slope Any Location < 1:10 (any height) • Lower Third Any Slope • Mid Third Slope Up To 1:5 Height < 20m • Ave. Slope 1:7.5 & h< 25m • Ave. Slope 1:5 & h<20m • Ave. Slope 1:3 & h<15m • Mid Slope Up To 1:3 • Top Slope Up To 1:7.5 • Mid Slope > 1:5 • Top Slope Up To 1:5 • Top Slope Up To 1:3	1.0 1.15 1.25 1.40	T1. T2. T3. T4. X 1·0
	EXAMPLE ONLY 41 x 0·76 x 0·85 x 1·0 = 26·48.	ROUND TOTAL UP TO NEXT HIGHEST WIND CLASSIFICATION. →	DESIGN WIND SPEED = 26·48 W28 (N1)

** DISCLAIMER **

This information sheet is a guide only. Verification with original Local Laws, Acts, Planning Schemes, and other relevant documents is recommended for detailed references. The City of Albany accepts no responsibility for errors or omissions.