WIND DESIGN WORKSHOP - LOW & MEDIUM RISE STRUCTURES

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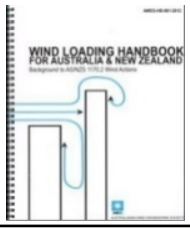
- Leading consultant on Wind Loads and Actions throughout the world and in Australia.
- Chairperson of BD6/2 - Wind Actions for Standards Australia.
- Involved in writing the various editions of Australian Standards AS 1170.2-1989 and AS/NZS 1170.2-2011.

Recommended Text:

Wind Loading Handbook

for Australia & New Zealand

(2012)



WORKSHOP SUMMARY

This one-day workshop will address the key aspects of basic wind design as per AS/NZS 1170.2-2011 and outlined in the session headings below.

This course is primarily aimed at engineers who will design structures less than 8 storeys in height such as smaller office buildings and 3 storey walk ups. Proposed changes to the Wind code will be addressed.

If engineers wish to analyse tall structures under dynamic loading (eg < 1 Hz, cross wind responses, turbulence intensity and damping) then we would refer them to our ETIA course "Wind Design Workshop – Tall Structures".

Sessions provide worked examples, tutorial exercises and solutions.

PROGRAMME *(8.30am AEST Zoom invite will be emailed)*

9.00 - 11.00 Session 1
- WIND ACTION THEORY

- Wind is by far the most crucial loading in Australia (once dead and live loads have been addressed). Its complexities and unusual behaviour require a more detailed analysis than that required for permanent and imposed actions.
- The basic principles of wind design as well as the development of this Standard over many years.
- Requirements of the BCA and its relevance to AS/NZS 1170.2-2011.

11.00 - 11.15 Morning Break

11.15 - 1.00 Session 2
- INDUSTRIAL WAREHOUSE BUILDINGS

- Wind design of Steel Framed Industrial Buildings (eg Portal Frame structures) eg warehouses and factories on the edge of urban areas.
- Key parameters to be addressed include:
  (a) Location (b) Terrain (c) Topography (d) Building Dimensions
  (e) Building Orientation (f) Regional Wind Speed
  (g) Aerodynamic Shape Factor (h) Pressures on Doors and Windows
- Tutorial Exercise

1.00 - 1.30 Lunch Break

1.30 - 3.00 Session 3
- MEDIUM HEIGHT OFFICE BUILDING (L-Shaped + Shielding)
- SINGLE STOREY HOUSE (on cliff top overlooking sea)

- Two different case studies:
  a) The first example (Ex 5.11) is an 8 storey office building with nonrectangular shape and shielded by other surrounding buildings. The example is located in Canberra (but as usual all examples can be applied anywhere in Australia or NZ).
  b) The second case (Ex 5.2) is a single storey home located on a cliff overlooking the sea (in Victoria). Parameters which come into play for this example include the 'Hill Shape' multiplier and design loading for windows and roof cladding and battens.
- Tutorial Exercise

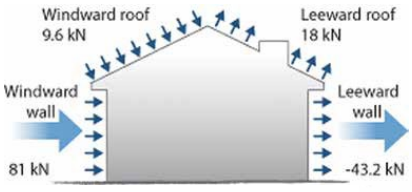
3.00 - 3.15 Afternoon Break

CALCULATORS REQUIRED

3.15 - 5.00 Session 4
- LARGE SIGHT SCREENS & ADVERTISING HOARDINGS
- PITCHED FREE ROOFS

- Two different case studies:
  a) The first example (Ex 5.8) is the design of a sight screen at a cricket ground 6m x 6m x 5m (similar to the design of a large advertising board) which is located in north QLD. Unique wind factors include net porosity factor, normal and oblique wind directions, eccentricity of loads and serviceability limits.
  b) The second case (Ex 5.9) is the design of a pitch free roof over a storage area. The Tasmanian structure addresses parameters such as lag distance and changes in terrain leading up to the structure (which impact on the M_z, cat value). It evaluates various situations particular to pitch free roofs (eg empty zone vs blocked zone) under the roof and how the net pressure coefficients vary. Frictional drag forces are also examined.
- Tutorial Exercise

Certificate of Attendance will be emailed



Live streamed via zoom

- One day course – **$780 pp**

FURTHER INFORMATION

- (02) 9899 7447
- +61 413 998 031
- registrations@etia.net.au

- *To register, visit our website* www.etia.net.au ***OR*** *scan the QR Code.*

Cancellations made more than 5 working days prior to a course will incur a 20% processing fee of the full registration amount.
Cancellations made 5 working days or less will incur forfeiture of the full registration fee.