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 AS1170.2-1989 to AS/NZS 1170.2-2021.

Livestreamed via zoom

WORKSHOP SUMMARY 8 hours of CPD

This one-day workshop will address the key aspects of basic wind design as per the AS/NZS 1170.2-2021 Standard 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.

There have been significant changes to this Wind Standard which will be addressed in both ETIA Wind Design Workshops.

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 – Dynamic & High Rise Structures".

Sessions provide worked examples, tutorial exercises and solutions.

PROGRAMME *(8.30am - 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, including new parameters such as climate change factor and shape factors.
- Requirements of the BCA and its relevance to AS/NZS 1170.2-2021.

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)
- WIND ON SOLAR PANELS

- Two different case studies:
  a) The first example 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 example is for Ground & Roof-Mounted Solar Panels - A solar farm is planned for a site in flat, open country, in the Pilbara region of Western Australia, inland from Onslow (Region D in AS/NZS 1170.2-2021). Design wind loads are required to be determined for both unshielded and shielded solar arrays.
- Tutorial Exercise

3.00 - 3.15 Afternoon Break

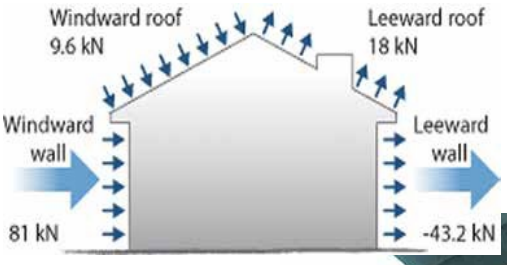
AS/NZS 1170.2-2021 STANDARD

3.15 - 5.00 Session 4
- PITCHED FREE ROOFS

- This example, a structure based in Tasmania, 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

CALCULATORS REQUIRED



- One day course – **$800 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.