KASA Redberg

Engineers & Technical Trainers

Wind Loading to AS/NZS 1170.2

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Introduction

The AS/NZS 1170 suite of standards provides requirements for designing buildings and structures so that they can withstand normal, everyday loading conditions as well as spurious conditions such as cyclones, earthquakes and snow loads.

The purpose of this three hour online (e-learning) course is to provide basic instruction and guidance for designers in Australia and New Zealand with regards to the design of buildings and structures so that they can withstand wind forces.

Who Should Access the Course

Design Engineers, Project Engineers, Consulting Engineers; Design & Construct Professionals, or anyone who needs to understand how to interpret the requirements of the Australian and New Zealand standard related to wind loading.

Delegate Pre-Requisites

No previous knowledge or qualifications are required.

Course Objectives

At the completion of this course, each delegate should be able to:

- Understand wind pressure and the effects on individual structural elements as well as complete buildings.
- Appreciate how to obtain wind speed data.
- Use basic wind speed data to derive design wind pressures.
- Appreciate the effects of openings on buildings and how they affect the wind forces at play.
- Be aware of the underlying theory and background relating to pressure differentials, wind speed and wind forces.
- Perform calculations to determine the wind pressures and wind forces on buildings and structures such as: rectangular buildings, free-standing roofs and chimneys/stacks.
- Be able to identify a wind-sensitive structure and when the dynamic response factor should be employed.
- Interpret terrain, topography and shielding data and the effect of this data on the design wind pressure.

Training Course Materials

All users receive a **Certificate of Attendance** which states the number of CPD* hours of training and serves as documentary proof of completion. This certificate is made available for download immediately upon successful course completion.

CPD hours = Continuing Professional Development hours allocated in accordance with Engineers Australia policy.

Learning Management System & User Access

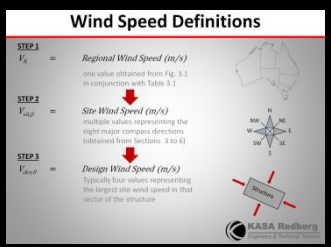
This course is accessed through the KASA Redberg learning management system (LMS) which is hosted by Litmos.

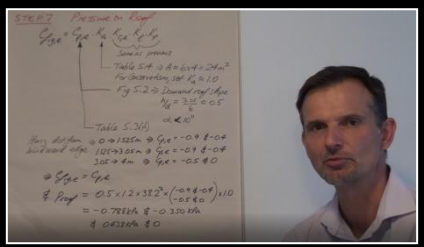
Login details are provided to registrants via the KASA Redberg website once payment has been made via credit card or a PayPal account. Once the funds have been received, an auto-generated email with login details and a receipt of payment will be sent to the registrant. This usually only takes a few minutes. The registrant can then access the course immediately by following the links in the email or by returning to the appropriate page on the KASA Redberg website.

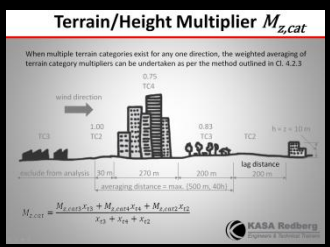
Access via Your Company's Intranet or LMS

Should your company have multiple users who want to access one or more of our online courses, it may be more cost effective to pay a fee for access where we can assign courses in bulk to your staff. Alternatively, an annual fee can be paid for the course files to be provided to your IT Department for incorporation into your own company's intranet or learning management system. Please contact KASA Redberg via email - info@kasa.com.au to find out more.

It should also be noted that all of our online courses are easily viewed on a PC, Mac, iPhone, iPad or any Android phone/tablet device.







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Course Synopsis

MODULE 1 – INTRODUCTION & BACKGROUND
- Brief History and Background
- Wind Forces
- Derivation of Design Wind Pressure
- The Scope of AS/NZS 1170.2
- Exclusions

MODULE 2 - SPEED
- Wind Speed Definitions
- Regional Wind Speed
- Site Wind Speed
- Wind Direction Multiplier
- Terrain/Height Multiplier
- Shielding Multiplier
- Assessing Terrain & Shielding
- Topographic Multiplier

MODULE 3 – DESIGN WIND PRESSURE
- Design Wind Pressures
- The Aerodynamic Shape Factor
- Openings
- Determining Cfig

MODULE 4 – VIDEO TUTORIAL
- Worked Example Problem – Freestanding Wall

MODULE 5 – VIDEO TUTORIAL
- Worked Example Problem – Rectangular Building

MODULE 6 – DOMINANT OPENINGS
- Wind Tunnel Simulation – Dominant Openings

MODULE 7 – FREE ROOFS
- Wind Tunnel Simulation – Free Roofs

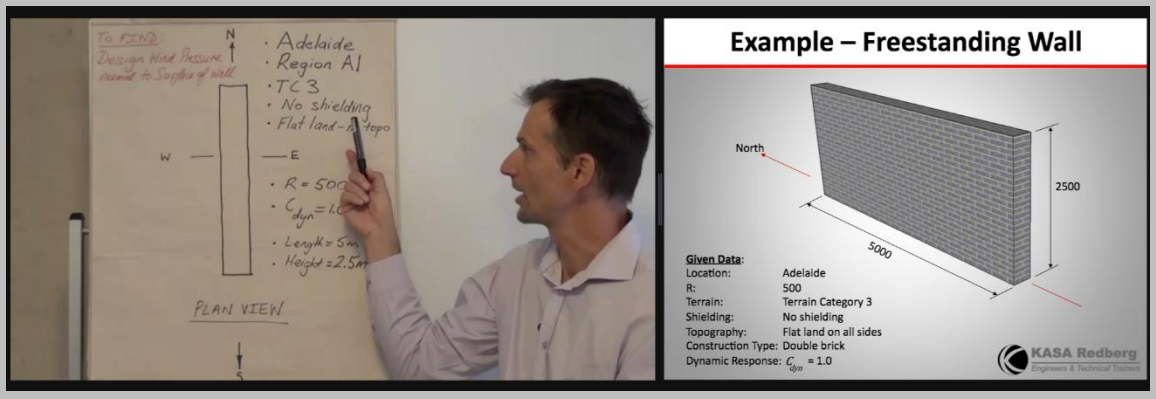
MODULE 8 – DYNAMIC RESPONSE FACTOR
- Introduction to the Dynamic Response Factor
- Wind Sensitive Structures
- Rigidity and Serviceability
- Factors Affecting Natural Frequency
- Determining the Natural Frequency
- Calculating the Dynamic Response Factor

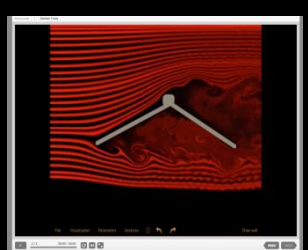
MODULE 9 – THETA AND WIND DIRECTION
- Theta and Wind Direction

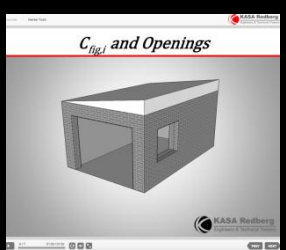
MODULE 10 – FORCES
- AS/NZS 1170.2 Section 2.5
- Force Resultants

MODULE 11 – VIDEO TUTORIAL
- Worked Example Problem – Sewer Vent Stack

MODULE 12 – QUIZ
- End of Course Quiz







About KASA Redberg

KASA Redberg is a technical training and engineering consulting group.

We have core competencies in pumping systems, piping systems, pipelines, pressure vessels and slurry handling systems. We also act as independent HAZOP workshop facilitators and Safety-in-Design workshop facilitators.

Our portfolio of services includes:

•Tank and vessel design.
•Chemicals plant design.
•Water treatment plant design.
•Pumping and piping systems design.
•Pump station and pipeline design
•Mine dewatering and water supply systems design.
•Pipe stress analysis
•Pipeline hydraulic modelling
•Water hammer analysis
•Slurry piping systems design and slurry pump selection.
•On-site troubleshooting of pumps and piping systems.
•Operator training courses
•HAZOP workshop facilitation
•Safety-in-Design workshop facilitation

Contact Details

KASA Redberg Pty Ltd
ABN: 35 107 585 375
PO Box 459
Balgowlah NSW 2093
AUSTRALIA

Phone: +61(0)2 5105 4082
Fax: N/A
Email: info@kasa.com.au
Web: www.kasa.com.au

For general email enquiries and for more information on our courses and consulting services, please email: info@kasa.com.au

For course registrations, general administration and accounts related enquiries, please email: admin@kasa.com.au