

## Steel Tanks, Bins & Silos Prevention of Failures

The loading experienced by steel tanks, bins and silos and their response to these loads requires special considerations not found in typical structural steel design handbooks or standards. Steel tanks, bins and silos use membrane action to resist internal pressures generated by the contents. This is an efficient use of material, but typically results in structures that have thin walls. This presents problems with buckling under external pressure (due to wind as an example) and longitudinal stresses due to overturning. In addition, the connection of supports for elevated tanks, bins and silos whether they be saddles, skirts or discrete columns requires consideration to ensure the walls don't fail locally either through yielding or buckling.

This webcast seminar aims to provide engineers with an understanding of the basics of the design of steel tanks, bins and silos with an emphasis on understanding the manner in which they're loaded, the response of the structure to these loads and the methods available to prevent failures.

### Times

**Webcast seminar (video, audio & slides) available to view from 28 to 30 April 2020**  
**Live Q&A webinar (max. 1 hour) with presenter at 11.00 am AEST on 6 May 2020**

### Seminar Package

**Webcast Seminar – 4 hours of content**  
**Seminar Notes**  
**Live Q&A webinar with presenter**

### Seminar Content

Environmental loads, bulk solid loads, supporting structures, weld joint efficiency, bolted joint efficiency, corrosion allowance, wind induced buckling, design against yielding, frangible roof design, design against buckling, design of anchorage, prevention of fatigue failure

### Presenter

**Patrick Meehan** – Patrick is a Senior Mechanical Engineer at FE Consultants. Patrick specialises in the design of steel structures including tanks, pressure vessels and associated steel structures. He has designed many tanks, silos and vessels for industry ranging in complexity from simple analytical designs through to design by analysis using finite element modelling. He has also presented and published papers on the topic of finite element analysis of shell type structures and in particular buckling behaviour and the treatment of results at international conferences.

### Seminar Fee (incl GST)

**\$335 ASI Member**  
**\$410 EA Member**  
**\$480 Non Member**

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Engineers viewing this webcast seminar may gain CPD points to meet Engineers Australia requirements.

**EA Members who are not ASI members** should email [membership@steel.org.au](mailto:membership@steel.org.au) with proof of membership to obtain the promotion code to access the EA Member reduced fee.

**Registrations close on Thursday 23 April**

Register online at: <https://www.steel.org.au/events-awards/events/>

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Patrick Meehan