



Australian Government

Assessment Requirements for MEM30006

Calculate stresses in simple structures

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MEM30006A Calculate stresses in simple structures.

Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include:

- determining stresses in simple structures and mechanical components on at least two occasions
- drawing and using torque distribution diagrams
- using relevant codes and reference material
- verifying stress levels using appropriate reference material
- reporting verification results.

Note: Where a volume and/or frequency is not specified, demonstration must be provided at least once.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- stress and strain:
 - normal stress and strain
 - modules of elasticity
 - deformation
 - Poisson's ratio
 - shear stress and strain
 - modulus of rigidity
 - yield stress, ultimate stress, proportional limit, factor of safety and allowable stress
- centrally-loaded connections
- bolted connections
- shear, tensile, torque and bearing stresses
- centrally-loaded welded connections
- fillet and butt welds including method of failure
- size and length of weld
- effect of hole punching
- longitudinal stress
- relevant codes and reference material.

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Assessment Conditions

- Assessors must:
 - have vocational competency in calculating stresses in simple structures at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the Standards for Registered Training Organisations 2015 or its replacement and comply with the National Vocational Education and Training Regulator Act 2011, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires.
- Where possible, assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions that cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.
- Conditions for assessment must include access to all tools, equipment, materials and documentation required including relevant workplace procedures, product and manufacturing specifications.
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.
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Links

Companion Volume Implementation Guides are available on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>