



Australian Government

MEM09227 Establish structural steel detailing project arrangements

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to MSATCS503A Incorporate structural steel detailing into fabrication and construction project management.

Application

This unit of competency defines the skills and knowledge required to establish structural steel detailing arrangements carried out for residential, commercial, industrial or mining projects in a manner consistent with procedures and timelines for fabrication and construction projects. The unit requires knowledge of the roles of architects, engineers, builders and fabricators and the skill to interpret project schedules and timelines and their implications for structural steel detailing.

This unit applies to structural steel detailers who are required to liaise with architects, consulting engineers, builders and fabricators at the commencement of a project to establish structural steel detailing arrangements that are consistent with the policies, procedures and timelines of fabrication or construction projects.

Design information in this unit is the information provided to the detailer and fabricator by the architects and consulting engineers for a project. For some projects, the design information may only be provided by an engineer. The design information will usually be in the form of design drawings or sketches but may also be via material lists, written instructions or computer files.

The term ‘client’ in this unit refers to the organisation commissioning the production of structural steel detail drawings and will normally be the fabricator of structural steel elements of a construction project. However, depending on the project the client may vary and could be the consulting engineer, or in the case of mining projects, it could be the mining company. The client may commission structural steel detail drawing from either internal or external structural steel detailers.

Work may be performed individually on a contracting/project basis or as part of a project team in response to combinations of paper-based and digital instructions.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil.

Competency Field

Drawing, drafting and design

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Determine job requirements	1.1 Follow standard operating procedures (SOPs) 1.2 Comply with work health and safety (WHS) requirements at all times 1.3 Identify job requirements from specifications and other available information
2. Determine requirements for structural steel detailing	2.1 Obtain contact information 2.2 Obtain project timeline and schedules and determine delivery dates for detail drawings 2.3 Agree on procedures for making requests for further information (RFIs) 2.4 Determine requirements for attendance at team meetings and site visits 2.5 Determine detailing information requirements 2.6 Obtain design information from architect and consulting engineer 2.7 Use design information and project schedules to assess the scope and complexity of detailing tasks
3. Establish structural steel detailing arrangements for project	3.1 Communicate details of structural steel detailing team to client 3.2 Establish document control procedures 3.3 Establish steel detailing tasks and deadlines and check against construction project schedules 3.4 Assess capabilities of proprietary computer-aided design (CAD) and steel detailing software for project and make a decision to use computer based or manual structural detailing methods

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Contacts include one or more of the following:	• client • architect • consulting engineer • builder • fabricator.
Schedules include one or more of the following:	• Gantt charts • contract schedules • lists of contractors • contracted suppliers • any other lists or diagrams relevant to determining the required delivery dates for structural steel detail drawings.
Client detailing requirements include one or more of the following:	• shop detail drawings, erection diagrams and material schedules and lists • program and format for CAD files and models • downloading by the structural steel detailer of files direct to client computers and computer numerical control (CNC) machines • size and number of hard copy drawings • specification of programs and requirements for word processed documents, spreadsheets, presentations, invoices and other documentation.
Document control procedures include one or more of the following:	• numbering • access • filing • revision and updating approval procedures according to organisational procedures and client requirements.

Unit Mapping Information

Release 1. Supersedes and is equivalent to MSATCS503A Incorporate structural steel detailing into fabrication and construction project management.

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for MEM09227 Establish structural steel detailing project arrangements

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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:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- complying with requirements prescribed by legislation, awards, agreements and conditions of employment
- negotiating with clients
- assessing scope of structural steel detailing tasks and priorities
- using Gantt charts and other project management scheduling tools
- assessing suitability of specialist software for steel detailing projects
- establishing structural steel detailing arrangements on at least two occasions
- communicating at all levels about technical issues related to patterns and specifications.

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:

- safe work practices and procedures
- roles and responsibilities of owners, architects, engineers, fabricators, builders and structural steel detailers in construction projects
- steel construction stages of design, detailing, fabrication and erection
- codes and standards relevant to steel construction activities
- construction and fabrication project management practices including use of Gantt charts and other scheduling tools
- difference between design and detail drawing processes
- drawing office procedures
- proprietary and non-proprietary computer-aided design (CAD) and specialised steel detailing programs.

Assessment Conditions

- Assessors must:
 - have vocational competency in establishing structural steel detailing arrangements 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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