

Training Package	Metal and Engineering (MEM05)			HSC Requirements and Advice
Title	Perform sheet and plate assembly			
Unit code	Competency field	Band	Unit weight	HSC Indicative Hours
MEM03003B	Assembly	A	4	35

Unit descriptor	The unit covers assembling prefabricated/formed components using a range of joining techniques.
Prerequisites	MEM18001C Use hand tools MEM18002B Use power tools/hand held operations
Application of the competency	This unit applies to production assembly of pre-fabricated/formed components. Applications of this unit may include manufacture of white goods, appliances, electrical cabinets, metal furniture, cladding and shelving, box trailer bodies, ductwork and other sheet and plate assemblies.
Related units	Where production welding skills are required, refer to Unit MEM05013C (Perform manual production welding). Where soft soldering is required, Unit MEM0500B3 (Perform soft soldering) should be selected. Where brazing and/or silver soldering is required, Unit MEM05006B (Perform brazing and/or silver soldering) should be selected. Where measurement skills are required, refer to Unit MEM12023B (Perform engineering measurements).

Evidence Guide

The evidence guide specifies the evidence required to demonstrate achievement in the unit of competency as a whole. It must be read in conjunction with the unit descriptor, performance criteria, range statement and the assessment guidelines for the Metal and Engineering Training Package.

Overview of assessment requirements	Context of assessment	Interdependent assessment	Method of assessment
A person who demonstrates competency in this unit must be able to assemble prefabricated/formed components using a variety of joining techniques. Competency in this unit cannot be claimed until all prerequisites have been satisfied.	This unit may be assessed on the job, off the job or a combination of both. Where assessment occurs off the job, i.e. the candidate is not in productive work, an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.	This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with sheet and plate assembly or other units requiring the exercise of the skills and knowledge covered by this unit.	Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate must have access to all tools, equipment, materials and documentation required. The candidate must be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.

Evidence Guide cont/d			HSC Requirements and Advice
Consistency of performance	Required skills	Required knowledge	Key Terms and Concepts
Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and be capable of applying the competency in new and different situations and contexts.	<p>Look for evidence that confirms skills in:</p> <ul style="list-style-type: none"> • reading, interpreting and following written job sheets, instructions, standard operating procedures and other applicable reference documents • checking and clarifying routine familiar information • selecting and using specified assembly equipment and tools • following sequence of operations • joining the components/fabrications correctly and safely using appropriate techniques • testing and checking assembled products for compliance with specifications • handling and storing components, fabrications and/or assemblies • checking for conformance to specifications • following oral instructions. 	<p>Look for evidence that confirms knowledge of:</p> <ul style="list-style-type: none"> • the importance of following the sequence of operations • application and function of assembly equipment • safety precautions and operating characteristics of assembly equipment and tools • application and limitations of different joining techniques • surface preparation and joining techniques • assembly tests/checks • safe handling and storage procedures applicable to components, fabrications and/or assemblies • effects of inappropriate handling and storage procedures • hazards and control measures associated with sheet and plate assembly • use and application of personal protective equipment • safe work practices and procedures for sheet and plate assembly. 	<ul style="list-style-type: none"> • assemble fabrications • communication • compliance tests/checks • compliance to specifications • job sheets • joining techniques • personal protective equipment (PPE) • planning and preparation • quality assurance • safe handling and correct storage of assemblies and fabrications • safe work practices and procedures • selection of sheet and plate assembly • sequence of operations • sheet and plate assembly • standard operating procedures (SOP) • use/application of sheet and plate assembly equipment • verification against specifications • work instructions and procedures • working knowledge of sheet and plate assembly equipment.

Elements	Performance criteria	Range Statement	HSC Requirements and Advice
1 Read and understand job sheets	1.1 Job sheets/instruction are correctly interpreted and followed.	<p>The range statement provides information about the context in which the unit of competency is carried out. The variables [in bold] and scope [dot points] cater for different work requirements, work practices and knowledge between States, Territories and the Commonwealth, and between organisations and workplaces. The range statement relates to the unit as a whole and provides a focus for assessment. Text in italics in the performance criteria is explained here.</p> <p>The following variables may be present and <i>may include</i>, but are not limited to, the examples listed under the scope. All work is undertaken to state or territory legislative requirements, where applicable.</p>	<p>Learning experiences for the HSC must address:</p> <p>A range of sources for work instructions and procedures including:</p> <ul style="list-style-type: none"> • work schedules • job card/sheet/plans/specifications • standard operating procedures (SOP) • standard operation sheets • Material Safety Data Sheets (MSDS) • diagrams/sketches • regulations/legislation • manufacturing workplace guidelines, policies and procedures • Australian Standards. <p>An awareness of various modes of communication to receive work instructions including:</p> <ul style="list-style-type: none"> • verbal <ul style="list-style-type: none"> - face to face (supervisor to employee) - telephone/mobile phone - workplace meetings • written communication <ul style="list-style-type: none"> - work plans - memos/messages - job descriptions/statements - workplace forms - rosters • non-verbal <ul style="list-style-type: none"> - signage - diagrams. <p>Safe work practices and procedures.</p> <p>Planning and preparation for a range of tasks/activities applicable to sheet and plate assemblies.</p>
2 Select and use sheet and plate assembly equipment	2.1 <i>Assembly equipment</i> is selected in accordance with instructions on job sheet.	<p>Assembly equipment</p> <ul style="list-style-type: none"> • jigs, fixtures and other appropriate tools. 	<p>Learning experiences for the HSC must address:</p> <p>A basic knowledge of a range of sheet and plate assembly equipment including:</p> <ul style="list-style-type: none"> • name • characteristics

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			<ul style="list-style-type: none"> • use • limitations • hazard controls • maintenance. <p>Knowledge of the use/application of a range of sheet and plate assembly equipment to produce the desired outcomes.</p> <p>Consideration/s for the selection of sheet and plate assembly equipment including:</p> <ul style="list-style-type: none"> • skills/training • time • cost • occupational health and safety (OHS) requirements • appropriateness for purpose.
	<p>2.2 Equipment is used in a safe manner according to standard operating procedures.</p>		<p>Learning experiences for the HSC must address:</p> <p>Safe work practices for using tools and equipment including:</p> <ul style="list-style-type: none"> • following SOP and manufacturer’s specifications before, during and after use • risk management (identifying hazards and implementing control measures) • correct manual handling • safe handling, application and storage of hazardous substances • appropriate use of personal protective equipment (PPE) • regular servicing and maintenance of tools and equipment • selection of appropriate tool for use • working with electricity in a safe manner • adequate ventilation • attaching appropriate safety guards where required. <p>Use and application of a range of PPE including:</p> <ul style="list-style-type: none"> • footwear • head protection • gloves
			<ul style="list-style-type: none"> • protective clothing

Elements	Performance criteria	Range Statement	HSC Requirements and Advice
			<ul style="list-style-type: none"> • respirator • face mask/shield • hearing protection • eye protection. <p>Importance of correct fitting PPE.</p>
3 Assemble fabrications	3.1 Products to be assembled are verified against specifications.		<p>Learning experiences for the HSC must address:</p> <p>A definition of:</p> <ul style="list-style-type: none"> • specification/s. <p>A basic overview of the role of employees in quality assurance.</p>
	3.2 Assembly is produced following correct sequence of operations.		
	3.3 Assemblies/fabrications are joined to specification using specified <i>joining techniques</i> .	<p>Joining techniques</p> <ul style="list-style-type: none"> • seaming, bonding, riveting, welding etc. 	<p>Learning experiences for the HSC must address:</p> <p>Knowledge of joining techniques including:</p> <ul style="list-style-type: none"> • technique procedure • applications • surface preparation • limitations. <p>A range of joining techniques including:</p> <ul style="list-style-type: none"> • seaming • bonding • riveting • welding.
	3.4 Assembly is tested/checked for compliance with job requirements using standard operating procedures.		<p>Learning experiences for the HSC must address:</p> <p>A definition of:</p> <ul style="list-style-type: none"> • compliance • job requirements. <p>Knowledge of compliance tests/checks to be undertaken to maintain quality assurance of assembled product.</p>
			SOP for non-conformance of assembled product to specifications.

Elements	Performance criteria	Range Statement	HSC Requirements and Advice
4 Protect assembly from damage	4.1 Assemblies/fabrications are handled and stored according to standard operating procedures and in a safe manner least likely to cause damage.		<p>Learning experiences for the HSC must address:</p> <p>An awareness of :</p> <ul style="list-style-type: none"> • potential damage to assemblies/fabrications through inappropriate handling • safe handling procedures applicable to assemblies/fabrications. <p>Issues relating to the storage of assemblies/fabrications including:</p> <ul style="list-style-type: none"> • security • climatic effects • OHS considerations • stability • ease of access. <p>Knowledge of methods by which assemblies/fabrications are stored and accessed.</p>