

**Name of Assessed Person:**

**Registration:**

**UNIT MEM24012: Apply Metallurgy Principles**

<b>1. Determine job requirements</b>	a. Conduct NDT test appropriate to metal or alloy	No. of Entries	1	2	3
		Tail / Job No.			
		LAME Sign.			
		Date			
		Simulated	Yes No	Yes No	Yes No

**Performance Criteria:**

- 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.

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<b>2. Interpret and apply the principles of solidification and crystal structures and equilibrium diagrams in metals and alloys</b>	a. Conduct NDT test appropriate to metal or alloy	No. of Entries	1	2	3
		Tail / Job No.			
		LAME Sign.			
		Date			
		Simulated	Yes No	Yes No	Yes No

**Performance Criteria:**

- 2.1 Interpret principles of solidification and crystal structures in metals and alloys and apply them in relation to NDT techniques.
- 2.2 Source and interpret equilibrium diagrams for metals and alloys.

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**3. Interpret and apply the principles for fusion welding of metals and alloys**

a. Conduct NDT test appropriate to metal or alloy

No. of Entries	1	2	3
Tail / Job No.			
LAME Sign.			
Date			
Simulated	Yes No	Yes No	Yes No

**Performance Criteria:**

- 3.1 Apply principles and methods for fusion welding of metals and alloys to NDT test selection.
- 3.2 Identify defects in weldments and classify them from NDT test results.

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**4. Interpret and apply the principles of the formation of castings**

a. Conduct NDT test appropriate to metal or alloy

No. of Entries	1	2	3
Tail / Job No.			
LAME Sign.			
Date			
Simulated	Yes No	Yes No	Yes No

**Performance Criteria:**

- 4.1 Apply principles and methods used to produce metal castings to NDT test selection.
- 4.2 Identify defects in metal and alloy castings and classify them from NDT test results.

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<b>5. Interpret and apply the principles of steel forging</b>	a. Conduct NDT test appropriate to metal or alloy	No. of Entries	1	2	3
		Tail / Job No.			
		LAME Sign.			
		Date			
		Simulated	Yes No	Yes No	Yes No

**Performance Criteria:**

- 5.1 Apply principles and methods used to produce steel forgings to NDT test selection.
- 5.2 Identify defects in steel forgings and classify them from NDT test results.

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<b>6. Interpret and apply the principles of mechanical testing</b>	a. Conduct NDT test appropriate to metal or alloy	No. of Entries	1	2	3
		Tail / Job No.			
		LAME sign			
		Date			
		Simulated	Yes No	Yes No	Yes No

**Performance Criteria:**

- 6.1 Apply principles of mechanical testing to NDT test selection.
- 6.2 Identify defects in metal products and classify them from NDT test results.

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**Certification of Underpinning Knowledge and Skills to Apply Metallurgy Principles**

A person cannot be assessed as competent until it can be demonstrated to the satisfaction of the workplace assessor that the relevant elements of this unit of competency are being achieved under routine supervision on each type of system and on at least one (1) component of each group listed in the assessment conditions a) that are applicable to the enterprise. This shall be established via the records in the Log of Industrial Experience and Achievement or, where appropriate, an equivalent Industry Evidence Guide (for details refer to the Companion Volume Implementation Guide).

<b>UNIT MEM24012: Apply Metallurgy Principles</b>	
Evidence has been confirmed of the attainment of the following pre-requisite units of competency (as they are related to the attainment of the elements of competency specified in this unit).  <p style="text-align: center;"><b>MEM13015, 16006</b></p>	
Evidence has been confirmed of the knowledge requirements for this unit as delivered by a CASR 147 Approved Organization.  <p style="text-align: center;"><b>OR</b></p> Assessment has been conducted to determine that the underpinning knowledge and skills have been achieved in accordance with the Competency Unit.	

**Certification of Unit Completion**

I certify that I have reviewed the certification of the elements for this competency unit and that all of the competency unit requirements have been met.

**Signed:** \_\_\_\_\_ **Assessor No.** \_\_\_\_\_ **MTO:** \_\_\_\_\_ **Date:** \_\_\_\_\_