

## Instruction Sheet for the Candidate

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 4</b>
<b>Competency Standard</b>	Perform Heat Treatment of Non-Ferrous Materials
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Candidate Details</b>	Name _____ Registration/Roll Number _____
<b>Guidance for Candidate</b>	<b>To meet this standard, you are required to complete the following within 04 Hrs. time frame (for practical demonstration &amp; assessment):</b> <ul style="list-style-type: none"> <li>• CU1. Perform Solution Treatment</li> <li>• CU2. Perform Aging</li> </ul>
<b>Time: 04 Hrs.</b>	During a practical assessment, under observation by an assessor, you are required to
<b>Minimum Evidence Required</b>	<p><b>CU1. Perform Solution Treatment</b></p> <p>P1. Handle the workpiece with appropriate care</p> <p>P2. Place the workpiece in the furnace</p> <p>P3. Adjust the temperature and soaking time of the furnace according to the material type and size.</p> <p>P4. Turn of the furnace once the required temperature and soaking time is achieved.</p> <p>P5. Remove the workpiece from the furnace and quench into the quenching media.</p> <p>P6. Clean the workpiece and referred it to the next section</p> <p><b>CU2. Perform Aging</b></p> <p>P1. Handle the workpiece with appropriate care</p> <p>P2. Place the workpiece in the furnace</p> <p>P3. Adjust the temperature and soaking time of the furnace according to the type and size of the material.</p> <p>P4. Turn of the furnace once the required temperature and soaking time is achieved.</p> <p>P5. Let the workpiece to cool in the furnace.</p>

	<p>P6. Remove the workpiece from the furnace, once the temperature drops to room temperature.</p> <p>P7. Clean the workpiece and referred it to the next section.</p>
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## Self-Assessment Checklist

<b>Candidate Name</b>	
<b>Registration No.</b>	
<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 4</b>
<b>Competency Standard</b>	Perform Heat Treatment of Non-Ferrous Materials
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Assessment Task</b>	<ul style="list-style-type: none"> <li>• CU1. Perform Solution Treatment</li> <li>• CU2. Perform Aging</li> </ul>

I can.....

<b>Performance Criteria</b>	<b>Yes</b>	<b>No</b>
<b>P1.</b> Handle the workpiece with appropriate care	<input type="checkbox"/>	<input type="checkbox"/>
<b>P2.</b> Place the workpiece in the furnace	<input type="checkbox"/>	<input type="checkbox"/>
<b>P3.</b> Adjust the temperature and soaking time of the furnace according to the material type and size.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P4.</b> Turn of the furnace once the required temperature and soaking time is achieved.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P5.</b> Remove the workpiece from the furnace and quench into the quenching media.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P6.</b> Clean the workpiece and referred it to the next section	<input type="checkbox"/>	<input type="checkbox"/>
<b>P7.</b> Handle the workpiece with appropriate care	<input type="checkbox"/>	<input type="checkbox"/>
<b>P8.</b> Place the workpiece in the furnace	<input type="checkbox"/>	<input type="checkbox"/>
<b>P9.</b> Adjust the temperature and soaking time of the furnace according to the type and size of the material.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P10.</b> Turn of the furnace once the required temperature and soaking time is achieved.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P11.</b> Let the workpiece to cool in the furnace.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P12.</b> Remove the workpiece from the furnace, once the temperature drops to room temperature.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P13.</b> Clean the workpiece and referred it to the next section.	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature\_\_\_\_\_ Assessor's Signature\_\_\_\_\_

Date: \_\_\_\_\_

## Assessors Judgment Guide

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 4</b>
<b>Competency Standard</b>	Perform Heat Treatment of Non-Ferrous Materials
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Candidate Details</b>	Name: _____ Registration/Roll Number: _____ Signature: _____
<b>Assessment Outcome</b>	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor _____ Assessor's code: _____ Signature: _____

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓				
Knowledge Assessment		✓					
Other Requirement							

## Observation Checklist

<b>Assessment Task</b>	<ul style="list-style-type: none"> <li>CU1. Perform Solution Treatment</li> <li>CU2. Perform Aging</li> </ul>			
<b>During the practical assessment, candidate demonstrated the following:</b>		<b>Yes</b>	<b>No</b>	<b>Remarks</b>
1.	Handle the workpiece with appropriate care			
2.	Place the workpiece in the furnace			
3.	Adjust the temperature and soaking time of the furnace according to the material type and size.			
4.	Turn of the furnace once the required temperature and soaking time is achieved.			
5.	Remove the workpiece from the furnace and quench into the quenching media.			
6.	Clean the workpiece and referred it to the next section			
7.	Handle the workpiece with appropriate care			
8.	Place the workpiece in the furnace			
9.	Adjust the temperature and soaking time of the furnace according to the type and size of the material.			
10.	Turn of the furnace once the required temperature and soaking time is achieved.			
11.	Let the workpiece to cool in the furnace.			
12.	Remove the workpiece from the furnace, once the temperature drops to room temperature.			
13.	Clean the workpiece and referred it to the next section.			
<b>Competent</b> <input type="checkbox"/>		<b>Not Yet Competent</b> <input type="checkbox"/>		

## Knowledge Assessment

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 4</b>
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<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Candidate Details</b>	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
<b>Assessment Outcome</b>	<b>COMPETENT</b> <input type="checkbox"/> <span style="margin-left: 100px;"><b>NOT YET COMPETENT</b> <input type="checkbox"/></span> Name of the Assessor: _____ Assessor's code: _____ Signature of the Assessor: _____

Candidate's response is not required to be identical, but similar concepts and/or keywords must be used. Oral questioning may be used to clarify candidate understanding of topic and its application.

Questions (Candidate confidently answered questions correctly and demonstrated understanding of the topics and their application)		Satisfactory	Not Satisfactory
1.	Which type of heating is used for non-ferrous materials?		
2.	What are the three types of heat treatment?		
3.	Describe Soaking time		

4.	Describe quenching media used for non-ferrous materials		

Feedback to the Candidate	
Candidate's Signature _____	Assessor's Signature _____