

## Instruction Sheet for the Candidate

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 5</b>
<b>Competency Standard</b>	Perform Galvanizing Coating
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Candidate Details</b>	Name _____ Registration/Roll Number _____
<b>Guidance for Candidate</b>	<p><b>To meet this standard, you are required to complete the following within 04 Hrs. time frame (for practical demonstration &amp; assessment):</b></p> <ul style="list-style-type: none"> <li>• CU1. Perform cataloging</li> <li>• CU2. Perform Cleaning Operation</li> <li>• CU3. Perform Drying Operation</li> <li>• CU4. Perform Galvanize coating Operation</li> <li>• CU5. Perform quenching Operation</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 cataloging</b></p> <p><b>P1.</b> Perform documentation of the initial conditions of Specimen and recognize its identity.</p> <p><b>P2.</b> Adopt standard safety practice and procedure for handling.</p> <p><b>P3.</b> Prepare job layout according to process requirements</p> <p><b>CU2. Perform Cleaning Operation</b></p> <p><b>P1.</b> Carry out cleaning process as per standard requirement.</p> <p><b>P2.</b> Adopt standard safety practice and procedure for chemical handling.</p> <p><b>P3.</b> Select the specimen side/face for coating</p> <p><b>P4.</b> Prepare caustic cleaning solution for treatment with a hot alkali solution to remove dirt and oil.</p> <p><b>P5.</b> Place specimen in the solution for standard time then remove and rinsing with water.</p> <p><b>P6.</b> Prepare pickling cleaning solution where the surface rust and scales are removed by using a hydrochloric acid solution.</p> <p><b>P7.</b> Place specimen in the solution for specific time then remove and rinsing with water.</p> <p><b>P8.</b> Prepare flux solution where the surface oxides are removed and protected from further oxidation risks.</p>

	<p><b>P9.</b> Place specimen in the solution for specific time.</p> <p><b>P10.</b> Remove the specimen from bath and ready for next step.</p> <p><b>CU3. Perform Drying Operation</b></p> <p><b>P1.</b> Place the specimen on the drying holders or fixtures.</p> <p><b>P2.</b> Arrange specimen in sequence with all safety factors</p> <p><b>P3.</b> Use hot air blower for drying the specimen</p> <p><b>CU4. Perform Galvanize coating Operation</b></p> <p><b>P1.</b> Identify galvanizing material specifications (Zn or Al %) according to standard and type of galvanizing coating on specimen.</p> <p><b>P2.</b> Follow standard safety practice and procedure for handling process.</p> <p><b>P3.</b> Prepare molten metal bath to react specimen surface with molten material.</p> <p><b>P4.</b> Place specimen in the bath for given time</p> <p><b>P5.</b> Remove specimen from bath and detract the excess coating material through pressurized air</p> <p><b>CU5. Perform quenching Operation</b></p> <p><b>P1.</b> Identify quenching material specifications according to standard and type of galvanizing coating on specimen.</p> <p><b>P2.</b> Follow standard safety practice and procedure for handling process.</p> <p><b>P3.</b> Prepare mild sodium dichromate solution in the bath to prevent the onset of wet storage staining during the early life of galvanizing.</p> <p><b>P4.</b> Place specimen in the bath for given time then remove.</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 5</b>
<b>Competency Standard</b>	Perform Galvanizing Coating
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Assessment Task</b>	<ul style="list-style-type: none"> <li>• CU1. Perform cataloging</li> <li>• CU2. Perform Cleaning Operation</li> <li>• CU3. Perform Drying Operation</li> <li>• CU4. Perform Galvanize coating Operation</li> <li>• CU5. Perform quenching Operation</li> </ul>

I can.....

<b>Performance Criteria</b>	<b>Yes</b>	<b>No</b>
<b>P1.</b> Perform documentation of the initial conditions of Specimen and recognize its identity.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P2.</b> Adopt standard safety practice and procedure for handling.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P3.</b> Prepare job layout according to process requirements	<input type="checkbox"/>	<input type="checkbox"/>
<b>P4.</b> Carry out cleaning process as per standard requirement.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P5.</b> Adopt standard safety practice and procedure for chemical handling.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P6.</b> Select the specimen side/face for coating	<input type="checkbox"/>	<input type="checkbox"/>
<b>P7.</b> Prepare caustic cleaning solution for treatment with a hot alkali solution to remove dirt and oil.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P8.</b> Place specimen in the solution for standard time then remove and rinsing with water.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P9.</b> Prepare pickling cleaning solution where the surface rust and scales are removed by using a hydrochloric acid solution.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P10.</b> Place specimen in the solution for specific time then remove and rinsing with water.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P11.</b> Prepare flux solution where the surface oxides are removed and protected from further oxidation risks.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P12.</b> Place specimen in the solution for specific time.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P13.</b> Remove the specimen from bath and ready for next step.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P14.</b> Place the specimen on the drying holders or fixtures.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P15.</b> Arrange specimen in sequence with all safety factors	<input type="checkbox"/>	<input type="checkbox"/>

<b>P16.</b>	Use hot air blower for drying the specimen	<input type="checkbox"/>	<input type="checkbox"/>
<b>P17.</b>	Identify galvanizing material specifications (Zn or Al %) according to standard and type of galvanizing coating on specimen.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P18.</b>	Follow standard safety practice and procedure for handling process.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P19.</b>	Prepare molten metal bath to react specimen surface with molten material.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P20.</b>	Place specimen in the bath for given time	<input type="checkbox"/>	<input type="checkbox"/>
<b>P21.</b>	Remove specimen from bath and detract the excess coating material through pressurized air	<input type="checkbox"/>	<input type="checkbox"/>
<b>P22.</b>	Identify quenching material specifications according to standard and type of galvanizing coating on specimen.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P23.</b>	Follow standard safety practice and procedure for handling process.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P24.</b>	Prepare mild sodium dichromate solution in the bath to prevent the onset of wet storage staining during the early life of galvanizing.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P25.</b>	Place specimen in the bath for given time then remove.	<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 5</b>
<b>Competency Standard</b>	Perform Galvanizing Coating
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Candidate Details</b>	Name: _____ Registration/Roll Number: _____ Signature: _____
<b>Assessment Outcome</b>	<div style="display: flex; justify-content: space-around; align-items: center;"> <span>COMPETENT <input type="checkbox"/></span> <span>NOT YET COMPETENT <input type="checkbox"/></span> </div> 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

Assessment Task		<ul style="list-style-type: none"> <li>• CU1. Perform cataloging</li> <li>• CU2. Perform Cleaning Operation</li> <li>• CU3. Perform Drying Operation</li> <li>• CU4. Perform Galvanize coating Operation</li> <li>• CU5. Perform quenching Operation</li> </ul>		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Perform documentation of the initial conditions of Specimen and recognize its identity.			
2.	Adopt standard safety practice and procedure for handling.			
3.	Prepare job layout according to process requirements			
4.	Carry out cleaning process as per standard requirement.			
5.	Adopt standard safety practice and procedure for chemical handling.			
6.	Select the specimen side/face for coating			
7.	Prepare caustic cleaning solution for treatment with a hot alkali solution to remove dirt and oil.			
8.	Place specimen in the solution for standard time then remove and rinsing with water.			
9.	Prepare pickling cleaning solution where the surface rust and scales are removed by using a hydrochloric acid solution.			
10.	Place specimen in the solution for specific time then remove and rinsing with water.			
11.	Prepare flux solution where the surface oxides are removed and protected from further oxidation risks.			
12.	Place specimen in the solution for specific time.			
13.	Remove the specimen from bath and ready for next step.			
14.	Place the specimen on the drying holders or fixtures.			
15.	Arrange specimen in sequence with all safety factors			
16.	Use hot air blower for drying the specimen			

17.	Identify galvanizing material specifications (Zn or Al %) according to standard and type of galvanizing coating on specimen.			
18.	Follow standard safety practice and procedure for handling process.			
19.	Prepare molten metal bath to react specimen surface with molten material.			
20.	Place specimen in the bath for given time			
21.	Remove specimen from bath and detract the excess coating material through pressurized air			
22.	Identify quenching material specifications according to standard and type of galvanizing coating on specimen.			
23.	Follow standard safety practice and procedure for handling process.			
24.	Prepare mild sodium dichromate solution in the bath to prevent the onset of wet storage staining during the early life of galvanizing.			
25.	Place specimen in the bath for given time then remove.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

## Knowledge Assessment

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 5</b>
<b>Competency Standard</b>	Perform Galvanizing Coating
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Candidate Details</b>	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
<b>Assessment Outcome</b>	<div style="display: flex; justify-content: space-around; align-items: center;"> <span><b>COMPETENT</b> <input type="checkbox"/></span> <span><b>NOT YET COMPETENT</b> <input type="checkbox"/></span> </div> 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.	What is the purpose of galvanized coating?		
2.	Which coating is used in galvanization?		
3.	What are the types of galvanizing?		



4.	Why zinc is used in galvanisation?		

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