

Assessment Evidence Guide

For

“ ”

Level-4

Module name
(Formative Assessment)

8th -12th March 2021



**National Vocational & Technical
Training Commission**

Title of Qualification: Surface Coating Technician-I	CS Code:	Level: 4	Version: 01
Competency Standard Title: Perform Galvanizing Coating	Assessment Date (DD/MM/YY): Assessment Time:		

Candidate Details	Name: Registration/Roll Number:.....
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>Assessment Task 1: Candidate is required to: Perform cataloging and Cleaning Operation</p> <p>Assessment Task 2: Candidate is required to: Perform Drying and Galvanize coating Operation</p> <p>Assessment Task 3: Candidate is required to: Perform Quenching Operation</p> <p>And complete:</p> <ol style="list-style-type: none"> 1. Knowledge assessment test (Written or Oral) 2. Portfolios at the time of assessment (if any)
Minimum Evidence Required	<p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <p>P1. Perform documentation of the initial conditions of Specimen and recognize its identity.</p> <p>P2. Adopt standard safety practice and procedure for handling.</p> <p>P3. Prepare job layout according to process requirements.</p> <p>P4. Carry out cleaning process as per standard requirement.</p> <p>P5. Adopt standard safety practice and procedure for chemical handling.</p> <p>P6. Select the specimen side/face for coating</p> <p>P7. Prepare caustic cleaning solution for treatment with a hot alkali solution to remove dirt and oil.</p> <p>P8. Place specimen in the solution for standard time then remove and rinsing with water.</p> <p>P9. Prepare pickling cleaning solution where the surface rust and scales are removed by using a hydrochloric acid solution.</p>

	<p>P10. Place specimen in the solution for specific time then remove and rinsing with water.</p> <p>P11. Prepare flux solution where the surface oxides are removed and protected from further oxidation risks.</p> <p>P12. Place specimen in the solution for specific time.</p> <p>P13. Remove the specimen from bath and ready for next step.</p>
	<p>Assessment Task 2</p> <p>P1. Place the specimen on the drying holders or fixtures.</p> <p>P2. Arrange specimen in sequence with all safety factors</p> <p>P3. Use hot air blower for drying the specimen.</p> <p>P4. Identify galvanizing material specifications (Zn or Al %) according to standard and type of galvanizing coating on specimen.</p> <p>P5. Adopt standard safety practice and procedure for handling process.</p> <p>P6. Prepare molten metal bath to react specimen surface with molten material.</p> <p>P7. Place specimen in the bath for given time</p> <p>P8. Remove specimen from bath and detract the excess coating material through pressurized air</p>
	<p>Assessment Task 3</p> <p>P1. Identify quenching material specifications according to standard and type of galvanizing coating on specimen.</p> <p>P2. Adopt standard safety practice and procedure for handling process.</p> <p>P3. Prepare mild sodium dichromate solution in the bath to prevent the onset of wet storage staining during the early life of galvanizing.</p> <p>P4. Place specimen in the bath for given time then remove.</p>
	<p>Portfolios required at the time of assessment (if any) for</p>

Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor:

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							

Each Assessment Task (with performance criteria)				
Assessment Task 1		Description of assessment task 1		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
	Perform documentation of the initial conditions of Specimen and recognize its identity.			
	Adopt standard safety practice and procedure for handling.			
	Prepare job layout according to process requirements			
	Carry out cleaning process as per standard requirement.			
	Adopt standard safety practice and procedure for chemical handling.			
	Select the specimen side/face for coating			
	Prepare caustic cleaning solution for treatment with a hot alkali solution to remove dirt and oil.			
	Place specimen in the solution for standard time then remove and rinsing with water.			
	Prepare pickling cleaning solution where the surface rust and scales are removed by using a hydrochloric acid solution.			
	Place specimen in the solution for specific time then remove and rinsing with water.			
	Prepare flux solution where the surface oxides are removed and protected from further oxidation risks.			
	Place specimen in the solution for specific time.			
	Remove the specimen from bath and ready for next step.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Assessment Task 2		Description of assessment task 2		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
	Place the specimen on the drying holders or fixtures.			
	Arrange specimen in sequence with all safety factors			
	Use hot air blower for drying the specimen.			
	Identify galvanizing material specifications (Zn or Al %) according to standard and type of galvanizing coating on specimen.			
	Adopt standard safety practice and procedure for handling process.			
	Prepare molten metal bath to react specimen surface with molten material.			
	Place specimen in the bath for given time			
	Remove specimen from bath and detract the excess coating material through pressurized air			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Each Assessment Task (with performance criteria)				
Assessment Task 3		Description of assessment task 3		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
	Identify quenching material specifications according to standard and type of galvanizing coating on specimen.			
	Adopt standard safety practice and procedure for handling process.			
	Prepare mild sodium dichromate solution in the bath to prevent the onset of wet storage staining during the early life of galvanizing.			
	Place specimen in the bath for given time then remove.			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Title of Qualification: Surface Coating Technician-I	CS Code:	Level:	Version: 01
Competency Standard Title: Perform Galvanizing Coating	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

Guidance for Candidate	To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully.
------------------------	----------------------------------------------------------------------------------------------------------------------------------------

Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name:.....Registration/Roll Number: Candidate Signature:
Written Assessment Outcome	COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor:Assessor's code: Signature of the Assessor:

Title of Qualification: Surface Coating Technician-I	CS Code:	Level:4	Version: 01
Competency Standard Title: Perform Galvanizing Coating	Assessment Date (DD/MM/YY): Assessment Time: 30 min		

WRITTEN ASSESSMENT

Question	Candidate's answer
Define purpose of galvanizing.	<ul style="list-style-type: none"> • Surface Protection • Corrosion protection • Long life
Why drying and quenching techniques	<ul style="list-style-type: none"> • Remove stain from surface • Hardening of coating Materials
Define General coating thickness ranges	<ul style="list-style-type: none"> • 20- 120 Micron
Define cleaning types.	<ul style="list-style-type: none"> • Chemical • Mechanical
Define galvanizing materials.	<ul style="list-style-type: none"> • Zn • AL • AL-Zn
Explain galvanizing time and temperatures.	<ul style="list-style-type: none"> • 15-25 mins • 450-550C°