

Instruction Sheet for the Candidate

Qualification	National Vocational Certificate in Metal Forming & Processing Level 3
Competency Standard	Perform Deep Drawing Operations
Purpose of Assessment	Formative Assessment
Candidate Details	Name_____ Registration/Roll Number_____
Guidance for Candidate	<p>To meet this standard, you are required to complete the following within 04 Hrs. time frame (for practical demonstration & assessment):</p> <ul style="list-style-type: none"> • Perform Annealing on raw material. • Arrange dies for deep drawing operation • Carry out deep drawing operation • Inspect the product dimension
Time: 04 Hrs.	During a practical assessment, under observation by an assessor, you are required to
Minimum Evidence Required	<p>Perform Annealing on raw material</p> <ol style="list-style-type: none"> 1. Handle the workpiece as per SOP 2. Place the workpiece in the heating furnace 3. Set standard soaking time of the heat treatment cycle as per requirements 4. Control the temperature of the furnace as per requirements 5. Turn off the furnace once the required temperature and soaking time is achieved. 6. Cool the workpiece in the furnace. 7. Remove the workpiece from the furnace once the temperature drops to room temperature <p>Arrange dies for deep drawing operation</p> <ol style="list-style-type: none"> 1. Measure the size of the workpiece 2. Select suitable die for drawing operation 3. Check the surface and other working requirements of dies 4. Carryout measurements of dies according to desired final size <p>Carry out deep drawing operation</p> <ol style="list-style-type: none"> 1. Check the working condition of drawing machine 2. Prepare the drawing machine for working

	<ol style="list-style-type: none"> 3. Calculate maximum draw force for given job 4. Placed the workpiece in the dies. 5. Operate the machine for drawing 6. Set constant speed to maintain uniformity 7. Remove the final drawn product from drawing machine 8. Allow the final drawn product to cool 9. Follow safety rules during drawing operation <p>Inspect the product dimension</p> <ol style="list-style-type: none"> 1. Measure the final size of the product 2. Compare the final dimensions with required final size 3. Record the data
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Self-Assessment Checklist

Candidate Name	
Registration No.	
Qualification	National Vocational Certificate in Metal Forming & Processing Level 3
Competency Standard	Perform Deep Drawing Operations
Purpose of Assessment	Formative Assessment
Assessment Task	<ul style="list-style-type: none"> • Perform Annealing on raw material. • Arrange dies for deep drawing operation • Carry out deep drawing operation • Inspect the product dimension

I can.....

Performance Criteria	Yes	No
1. Handle the workpiece as per SOP	<input type="checkbox"/>	<input type="checkbox"/>
2. Place the workpiece in the heating furnace	<input type="checkbox"/>	<input type="checkbox"/>
3. Set standard soaking time of the heat treatment cycle as per requirements	<input type="checkbox"/>	<input type="checkbox"/>
4. Control the temperature of the furnace as per requirements	<input type="checkbox"/>	<input type="checkbox"/>
5. Turn off the furnace once the required temperature and soaking time is achieved.	<input type="checkbox"/>	<input type="checkbox"/>
6. Cool the workpiece in the furnace.	<input type="checkbox"/>	<input type="checkbox"/>
7. Remove the workpiece from the furnace once the temperature drops to room temperature	<input type="checkbox"/>	<input type="checkbox"/>
8. Measure the size of the workpiece	<input type="checkbox"/>	<input type="checkbox"/>
9. Select suitable die for drawing operation	<input type="checkbox"/>	<input type="checkbox"/>
10. Check the surface and other working requirements of dies	<input type="checkbox"/>	<input type="checkbox"/>
11. Carryout measurements of dies according to desired final size	<input type="checkbox"/>	<input type="checkbox"/>
12. Check the working condition of drawing machine	<input type="checkbox"/>	<input type="checkbox"/>
13. Prepare the drawing machine for working	<input type="checkbox"/>	<input type="checkbox"/>
14. Calculate maximum draw force for given job	<input type="checkbox"/>	<input type="checkbox"/>
15. Placed the workpiece in the dies.	<input type="checkbox"/>	<input type="checkbox"/>
16. Operate the machine for drawing	<input type="checkbox"/>	<input type="checkbox"/>
17. Set constant speed to maintain uniformity	<input type="checkbox"/>	<input type="checkbox"/>
18. Remove the final drawn product from drawing machine	<input type="checkbox"/>	<input type="checkbox"/>

19. Allow the final drawn product to cool	<input type="checkbox"/>	<input type="checkbox"/>
20. Follow safety rules during drawing operation	<input type="checkbox"/>	<input type="checkbox"/>
21. Measure the final size of the product	<input type="checkbox"/>	<input type="checkbox"/>
22. Compare the final dimensions with required final size	<input type="checkbox"/>	<input type="checkbox"/>
23. Record the data	<input type="checkbox"/>	<input type="checkbox"/>

Candidate's Signature _____ Assessor's Signature _____

Date: _____

Assessors Judgment Guide

Qualification	National Vocational Certificate in Metal Forming & Processing Level 3
Competency Standard	Perform Deep Drawing Operations
Purpose of Assessment	Formative Assessment
Candidate Details	Name: _____ Registration/Roll Number: _____ Signature: _____
Assessment Outcome	<div style="display: flex; justify-content: space-between; align-items: center;"> COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> </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">• Perform Annealing on raw material.• Arrange dies for deep drawing operation• Carry out deep drawing operation• Inspect the product dimension		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1.	Handle the workpiece as per SOP			
2.	Place the workpiece in the heating furnace			
3.	Set standard soaking time of the heat treatment cycle as per requirements			
4.	Control the temperature of the furnace as per requirements			
5.	Turn off the furnace once the required temperature and soaking time is achieved.			
6.	Cool the workpiece in the furnace.			
7.	Remove the workpiece from the furnace once the temperature drops to room temperature			
8.	Measure the size of the workpiece			
9.	Select suitable die for drawing operation			
10.	Check the surface and other working requirements of dies			
11.	Carryout measurements of dies according to desired final size			
12.	Check the working condition of drawing machine			
13.	Prepare the drawing machine for working			
14.	Calculate maximum draw force for given job			
15.	Placed the workpiece in the dies.			
16.	Operate the machine for drawing			
17.	Set constant speed to maintain uniformity			
18.	Remove the final drawn product from drawing machine			
19.	Allow the final drawn product to cool			

20.	Follow safety rules during drawing operation			
21.	Measure the final size of the product			
22.	Compare the final dimensions with required final size			
23.	Record the data			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Knowledge Assessment

Qualification	National Vocational Certificate in Metal Forming & Processing Level 3
Competency Standard	Perform Deep Drawing Operations
Purpose of Assessment	Formative Assessment
Candidate Details	Name: _____ Registration/Roll Number: _____ Candidate Signature: _____
Assessment Outcome	<div style="display: flex; justify-content: space-around; align-items: center;"> COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> </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.	Define deep drawing process.		
2.	Define heat treatment process.		
3.	What is annealing?		

4.	Differentiate between deep drawing and wire drawing.		
5.	Enlist the types of material used for making deep drawing dies.		
6.	Enlist the types of dies used for drawing process.		

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