

## 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 Hydrostatic Extrusion Process
<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>• Perform cold hydrostatic extrusion</li> <li>• Perform hot hydrostatic extrusion</li> <li>• Carryout inspection of finished production</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>Perform cold hydrostatic extrusion</b></p> <ul style="list-style-type: none"> <li>• Arrange metal-forming dies as per standard</li> <li>• Select the suitable raw material for cold Hydrostatic Extrusion process</li> <li>• Inspect tools for correct installation</li> <li>• Carryout the cold hydrostatic extrusion process as per SOPs</li> <li>• Store the extruded product as per SOPs</li> <li>• Turn off the cold hydrostatic extrusion machine as per SOPs</li> </ul> <p><b>Perform hot hydrostatic extrusion</b></p> <ul style="list-style-type: none"> <li>• Arrange metal-forming dies as per standard</li> <li>• Select the suitable raw material for Hot Hydrostatic extrusion process</li> <li>• Inspect tools for standard installation</li> <li>• Pre-heat the Die prior to the hot Hydrostatic Extrusion process</li> <li>• Adjust the temperature of the Die, if required.</li> <li>• Carryout the hot extrusion process</li> <li>• Store the extruded product as per SOPs</li> <li>• Turn off the Hot hydrostatic extrusion machine as per SOPs</li> </ul> <p><b>Carryout inspection of finished production</b></p> <ul style="list-style-type: none"> <li>• Select samples to check conformance as per the requirement</li> <li>• Verify the dimensions of the finished products as per the given drawing</li> <li>• Carry out inspection of the finished extruded product as per Quality</li> </ul>

	Standards. <ul style="list-style-type: none"> <li>• Record the deviations, if any, with the given specifications</li> <li>• Report the deviations for corrective measures.</li> </ul>
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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 Hydrostatic Extrusion Process
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Assessment Task</b>	<ul style="list-style-type: none"> <li>• Perform cold hydrostatic extrusion</li> <li>• Perform hot hydrostatic extrusion</li> <li>• Carryout inspection of finished production</li> </ul>

I can.....

<b>Performance Criteria</b>	<b>Yes</b>	<b>No</b>
1. Arrange metal-forming dies as per standard	<input type="checkbox"/>	<input type="checkbox"/>
2. Select the suitable raw material for cold Hydrostatic Extrusion process	<input type="checkbox"/>	<input type="checkbox"/>
3. Inspect tools for correct installation	<input type="checkbox"/>	<input type="checkbox"/>
4. Carryout the cold hydrostatic extrusion process as per SOPs	<input type="checkbox"/>	<input type="checkbox"/>
5. Store the extruded product as per SOPs	<input type="checkbox"/>	<input type="checkbox"/>
6. Turn off the cold hydrostatic extrusion machine as per SOPs	<input type="checkbox"/>	<input type="checkbox"/>
7. Arrange metal-forming dies as per standard	<input type="checkbox"/>	<input type="checkbox"/>
8. Select the suitable raw material for Hot Hydrostatic extrusion process	<input type="checkbox"/>	<input type="checkbox"/>
9. Inspect tools for standard installation	<input type="checkbox"/>	<input type="checkbox"/>
10. Pre-heat the Die prior to the hot Hydrostatic Extrusion process	<input type="checkbox"/>	<input type="checkbox"/>
11. Adjust the temperature of the Die, if required.	<input type="checkbox"/>	<input type="checkbox"/>
12. Carryout the hot extrusion process	<input type="checkbox"/>	<input type="checkbox"/>
13. Store the extruded product as per SOPs	<input type="checkbox"/>	<input type="checkbox"/>
14. Turn off the Hot hydrostatic extrusion machine as per SOPs	<input type="checkbox"/>	<input type="checkbox"/>
15. Select samples to check conformance as per the requirement	<input type="checkbox"/>	<input type="checkbox"/>
16. Verify the dimensions of the finished products as per the given drawing	<input type="checkbox"/>	<input type="checkbox"/>

17. Carry out inspection of the finished extruded product as per Quality Standards.	<input type="text"/>	<input type="text"/>
18. Record the deviations, if any, with the given specifications	<input type="text"/>	<input type="text"/>
19. Report the deviations for corrective measures.	<input type="text"/>	<input type="text"/>

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 Hydrostatic Extrusion Process
<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>• Perform cold hydrostatic extrusion</li> <li>• Perform hot hydrostatic extrusion</li> <li>• Carryout inspection of finished production</li> </ul>		
<b>During the practical assessment, candidate demonstrated the following:</b>		<b>Yes</b>	<b>No</b>	<b>Remarks</b>
1.	Arrange metal-forming dies as per standard			
2.	Select the suitable raw material for cold Hydrostatic Extrusion process			
3.	Inspect tools for correct installation			
4.	Carryout the cold hydrostatic extrusion process as per SOPs			
5.	Store the extruded product as per SOPs			
6.	Turn off the cold hydrostatic extrusion machine as per SOPs			
7.	Arrange metal-forming dies as per standard			
8.	Select the suitable raw material for Hot Hydrostatic extrusion process			
9.	Inspect tools for standard installation			
10.	Pre-heat the Die prior to the hot Hydrostatic Extrusion process			
11.	Adjust the temperature of the Die, if required.			
12.	Carryout the hot extrusion process			
13.	Store the extruded product as per SOPs			
14.	Turn off the Hot hydrostatic extrusion machine as per SOPs			
15.	Select samples to check conformance as per the requirement			
16.	Verify the dimensions of the finished products as per the given drawing			
17.	Carry out inspection of the finished extruded product as per Quality Standards.			
18.	Record the deviations, if any, with the given specifications			
19.	Report the deviations for corrective measures.			

**Competent**

☐

**Not Yet Competent**

☐

## Knowledge Assessment

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 4</b>
<b>Competency Standard</b>	Perform Hydrostatic Extrusion Process
<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.	Define hydrostatic extrusion process.		
2.	What are different parts of Hydrostatic extrusion machine?		
3.	How temperature is adjusted in hot hydrostatic extrusion process?		



4.	What are different types of lubricants used in hydrostatic extrusion machine?		
5.	What are different applications of hydrostatic extrusion process?		

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