

## Instruction Sheet for the Candidate

<b>Qualification</b>	<b>National Vocational Certificate in Metal Forming &amp; Processing Level 4</b>
<b>Competency Standard</b>	Carryout Impact Testing
<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. Measure toughness of the specimen by Izod Impact Test</li> <li>• CU2. Measure Toughness of the specimen by Charpy Impact Test</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. Measure toughness of the specimen by Izod Impact Test</b></p> <p>P1.Check the dimensions of Izod specimen with the help of measuring instrument as per ASTM standard.</p> <p>P2.Inspect the working mode of the izod impact testing machine.</p> <p>P3.Adjust the initial position of the hammer.</p> <p>P4.Calculate the initial potential energy of the hammer.</p> <p>P5.Clamp the standard specimen in the anvil by keeping standard length out of the anvil.</p> <p>P6.Drop the hammer to strike it with standard specimen.</p> <p>P7.Calculate the final potential energy of the hammer.</p> <p>P8.Calculate the toughness of the specimen material by calculating difference of initial and final energy of the hammer.</p> <p><b>CU2. Measure Toughness of the specimen by Charpy Impact Test</b></p> <p>P1.Check the dimensions of Charpy specimen, received from workshop, with Vernier calliper as per ASTM standard.</p> <p>P2.Inspect the working mode of the charpy impact testing machine.</p> <p>P3.Adjust the initial position of the hammer.</p> <p>P4.Calculate the initial potential energy of the hammer.</p> <p>P5.Clamp the standard specimen in the anvil by keeping standard length out of the anvil.</p> <p>P6.Drop the hammer to strike it with standard specimen.</p> <p>P7.Calculate the final potential energy of the hammer.</p>

	P8.Calculate the toughness of the specimen material by calculating difference of initial and final energy of the hammer.
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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>	Carryout Impact Testing
<b>Purpose of Assessment</b>	<b>Formative Assessment</b>
<b>Assessment Task</b>	<ul style="list-style-type: none"> <li>• CU1. Measure toughness of the specimen by Izod Impact Test</li> <li>• CU2. Measure Toughness of the specimen by Charpy Impact Test</li> </ul>

I can.....

<b>Performance Criteria</b>	<b>Yes</b>	<b>No</b>
<b>P1.</b> Check the dimensions of Izod specimen with the help of measuring instrument as per ASTM standard.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P2.</b> Inspect the working mode of the izod impact testing machine.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P3.</b> Adjust the initial position of the hammer.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P4.</b> Calculate the initial potential energy of the hammer.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P5.</b> Clamp the standard specimen in the anvil by keeping standard length out of the anvil.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P6.</b> Drop the hammer to strike it with standard specimen.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P7.</b> Calculate the final potential energy of the hammer.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P8.</b> Calculate the toughness of the specimen material by calculating difference of initial and final energy of the hammer.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P9.</b> Check the dimensions of Charpy specimen, received from workshop, with Vernier calliper as per ASTM standard.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P10.</b> Inspect the working mode of the charpy impact testing machine.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P11.</b> Adjust the initial position of the hammer.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P12.</b> Calculate the initial potential energy of the hammer.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P13.</b> Clamp the standard specimen in the anvil by keeping standard length out of the anvil.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P14.</b> Drop the hammer to strike it with standard specimen.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P15.</b> Calculate the final potential energy of the hammer.	<input type="checkbox"/>	<input type="checkbox"/>
<b>P16.</b> Calculate the toughness of the specimen material by calculating difference of initial and final energy of the	<input type="checkbox"/>	<input type="checkbox"/>

hammer.		
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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>	Carryout Impact Testing
<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. Measure toughness of the specimen by Izod Impact Test</li> <li>CU2. Measure Toughness of the specimen by Charpy Impact Test</li> </ul>			
<b>During the practical assessment, candidate demonstrated the following:</b>		<b>Yes</b>	<b>No</b>	<b>Remarks</b>
1.	Check the dimensions of Izod specimen with the help of measuring instrument as per ASTM standard.			
2.	Inspect the working mode of the izod impact testing machine.			
3.	Adjust the initial position of the hammer.			
4.	Calculate the initial potential energy of the hammer.			
5.	Clamp the standard specimen in the anvil by keeping standard length out of the anvil.			
6.	Drop the hammer to strike it with standard specimen.			
7.	Calculate the final potential energy of the hammer.			
8.	Calculate the toughness of the specimen material by calculating difference of initial and final energy of the hammer.			
9.	Check the dimensions of Charpy specimen, received from workshop, with Vernier calliper as per ASTM standard.			
10.	Inspect the working mode of the charpy impact testing machine.			
11.	Adjust the initial position of the hammer.			
12.	Calculate the initial potential energy of the hammer.			
13.	Clamp the standard specimen in the anvil by keeping standard length out of the anvil.			
14.	Drop the hammer to strike it with standard specimen.			
15.	Calculate the final potential energy of the hammer.			
16.	Calculate the toughness of the specimen material by calculating difference of initial and final energy of the hammer.			
<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>
<b>Competency Standard</b>	Carryout Impact Testing
<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 main purpose of impact testing?		
2.	Why notch is provided in impact test?		
3.	What are key features of the impact test?		

4.	How many types of impact testing are there?		
5.	What are the advantages of V notch over rectangular notch?		

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