

071504T4WLD

WELDING LEVEL 4

ENG/OS/WEF/CR/02/4/A

Perform TIG Welding in all Positions with Various Metal Work Pieces

March/April 2025



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

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PRACTICAL ASSESSMENT

INSTRUCTIONS TO ASSESSOR

1. Assess the candidate as the practical progresses observing the critical areas
2. You are required to mark the practical as the candidate perform the tasks
3. You are required to take video clips at critical points
4. Ensure the candidate has a name tag and registration code at the back and front

OBSERVATION CHECKLIST

Candidate's Name & Registration Code			
Assessors Name & Registration Code			
Venue of Assessment			
Date of Assessment			
Items to be Evaluated: <i>Please award marks as appropriate. Give a brief comment on your observation.</i>	Marks Available	Marks Obtained	Comments
1. Adhered to prescribed safety: Wore PPEs correctly i. Welding shield ii. Safety boots iii. Leather gloves iv. Leather apron/Overall/Dust coat <i>(Award 1 mark for each)</i>	4		
<i>Sub-total</i>	4		
2. Set up TIG Welding equipment: i) Plugged the machine to the appropriate power source ii) Connected ground clamp correctly iii) Connected the torch correctly iv) Prepared the tungsten tip correctly v) Installed Tungsten electrode correctly vi) Connected the shielding gas correctly vii) Adjusted machine settings correctly viii) Turned off the welding machine ix) Closed the shielding gas cylinder valve x) Released the gas pressure xi) Turned off the regulator xii) Secured the torch and electrode	6		

(Award ½ mark for each)			
SUB- TOTAL	6		
<p>3. Performed house keeping</p> <p>a) Left the work area in a safe, clean and tidy state</p> <p>b) Segregated waste and disposed as per workplace procedures</p> <p>c) Returned tools and unused materials to the designated areas.</p> <p style="text-align: center;">Award 1 mark for each</p>	3		
Sub-Total	3		
Total (Observation Checklist)	13		
PRODUCT CHECKLIST			
<p>4. Prepared work pieces according to task specifications:</p> <p>Linear tolerance: ± 1 mm</p> <p>All dimensions are in mm</p> <p>a) Linear dimensions:</p> <p style="margin-left: 40px;">i. 100 (6 × ½) 3</p> <p style="margin-left: 40px;">ii. 60 (4 × ½) 2</p> <p style="margin-left: 40px;">iii. 40 (1 × ½) ½</p> <p style="margin-left: 40px;">iv. 70 (1 × ½) ½</p> <p style="margin-left: 40px;">v. 120 (2 × ½) 1</p> <p style="margin-left: 40px;">vi. 50 (2 × ½) 1</p> <p style="margin-left: 40px;">vii. 80 (4 × ½) 2</p> <p style="text-align: center;">(Award ½ mark for each)</p> <p>b) Squareness of work pieces:</p> <p style="margin-left: 40px;">i) 100 × 100 (2 × ½) 1</p> <p style="margin-left: 40px;">ii) 100 × 60 (4 × ½) 2</p> <p style="margin-left: 40px;">iii) 120 × 80 (2 × ½) 1</p>			

iv) 80 × 50 (2 × ½)	1			
v) 70 × 40 (1 × ½)	½			
(Award ½ mark for each)				
c) Performed thorough surface cleaning for TIG welding for all six work pieces (6 × 1)	6			
(Award 1 mark for each)				
Sub-total		21½		
Welded joints as per working drawing				
5. Tee joint:				
a) Alignment – 90° ± 1° (3 × 1)	21			
b) Welded as per weld symbol (3 × 1)				
c) Weld quality				
i) Uniform bead (3 × 1)				
ii) No undercut (3 × 1)				
iii) No cavities (3 × 1)				
iv) Proper fusion (3 × 1)				
v) No distortion (3 × 1)				
(Award 1 mark for each)				
Sub-total		21		
6. Butt joint:				
a) Alignment (1 × 1)	7			
b) Welded as per welding symbol (1 × 1)				
c) Weld quality				
i) Uniform bead (1 × 1)				
ii) No undercut (1 × 1)				
iii) No cavities (1 × 1)				
iv) Proper fusion (1 × 1)				

v) No distortion (1 × 1) (Award 1 mark for each)			
Sub-total	7		
7. Lap joint:			
a) Alignment (2 × 1)			
b) Welded as per weld symbol (2×1)			
c) Weld quality			
i) Uniform bead (2× 1)			
ii) No undercut (2 × 1)			
iii) No cavities (2 × 1)			
iv) Proper fusion (2 × 1)			
v) No distortion (2 × 1)			
(Award 1 mark for each)			
Sub-total	14		
8. Corner joint:			
a) Alignment - $90^\circ \pm 1^\circ$ (1 × 1)			
b) Welded as per weld symbol (2×1)			
c) Weld quality			
i. No undercut (1× 1)			
ii. No cavities (1 × 1)			
iii. Uniform bead (1 × 1)			
iv. No distortion (1× 1)			
v. Proper fusion (1 × 1)			
(Award 1 mark for each)			
Sub-total	8		
9. Performed welding positions as per the working drawing:			

a) 1 G b) 2F c) 3F d) 1F <i>(Award 1 mark for each)</i>	(1× 1) (4× 1) (4× 1) (2 × 1)	11		
Sub-total		11		
SUB TOTAL		82½		
10. Assembled the component as per the working drawing a) Dimensions: Linear tolerance: ± 1 mm All dimensions are in mm i. 200 ii. 124 iii. 44 iv. 54 <i>(Award ½ mark for each)</i>	(2 × ½) (2 × ½) (1 × ½) (2 × ½)	3½		
Sub-total		3½		
Total (Product Checklist)		86		
GRAND TOTAL (Observation + Product)		99		
Candidate percentage Score = $\frac{x}{99} \times 100$		100%		
ASSESSMENT OUTCOME				
The candidate was found to be:				
Competent	<input type="checkbox"/>	Not yet Competent	<input type="checkbox"/>	

(Please tick as appropriate)

(The candidate is competent if the candidate obtains at least 50%)

Feedback from the Candidate:

Feedback to the Candidate:

Candidate Signature

Date:

Assessor's Signature

Date

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