



Technical, Entrepreneurship and Vocational Education and Training Authority  
(TEVETA)

## PLUMBING AND SHEET METAL

### TRADE TEST LEVEL 2

#### Record of Practical Assessment

Learner`s name: \_\_\_\_\_

Learner`s NRC no.:\_\_\_\_\_

Learner`s TEVETA No.:\_\_\_\_\_

Institution Name: \_\_\_\_\_

Institution TVA No.:\_\_\_\_\_

Assessment Period: \_\_\_\_\_

## **PREFACE**

The Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) is an institution created under the Technical Education, Vocational and Entrepreneurship Training Act Number 13 of 1998, as amended by the Technical Education, Vocational and Entrepreneurship Training (Amendment) Act Number 11 of 2005.

The Act among other things provides that TEVETA shall:

- (a) regulate and conduct national examinations and assessments relating to technical education, vocational and entrepreneurship training;
- (b) charge and collect fees in respect of examinations, assessments and other services provided by the Authority;
- (c) award certificates to persons who succeed in examinations and assessments undertaken under this Act
- (d) do all such things connected with or incidental to the functions of the Authority under this Act.

Through this mandate, the Assessment and Qualifications Division of TEVETA has developed Practical Assessment Tool Kits to enable learners achieve the competences that are congruent with the demand of the workplace tasks. These tool kits in part are also intended to ensure that similar conditions under which all students in TEVET are assessed and examined apply wherever the course is undertaken in Zambia.

The Trainers shall work with the Learners to collect evidence of competence, using the benchmarks provided by the unit standards. During the year, the Learners shall be required to undertake a series of practical assessment tasks. It is the sum of all these assessments tasks that deems a Learner to be competent (or not).

This approach to assessment is not a one-off event but one that gives learners many opportunities to demonstrate skill and allow for the capturing and recording of these demonstrations.

For the Learner to be deemed competent, they must demonstrate competency in every aspect of the practical tasks being undertaken. It must however be understood by the Trainer that Competency does not mean expert. It means that the candidate has attained sufficient skill and knowledge to perform the activity or service to a degree and quality that is acceptable to the industry and the customer in a time within which a competent person at the level could reasonably be expected to perform the task.

While this will be undertaken at institutional level, it is therefore envisaged that the Assessment principles of VALIDITY, RELIABILITY, FAIRENESS and FLEXIBILITY shall at all times be adhered to.

## Pre-Assessment

Assessment process explained to the Trainee (✓ if Yes).	<input type="checkbox"/>
Any appeal relating to the outcome of the assessment or the way in which the assessment was conducted shall be made through the TEVETA <u>fair treatment policy</u> as explained to the Trainee (✓ if Yes).	<input type="checkbox"/>

<b>Learner/Trainee</b>  Learner/Trainee name: (Print)  Learner/Trainee comments:		<b>Assessor/Examiner</b>  Assessor/Examiner name: (Print)  Assessor/Examiner comments:	
I fully understand the assessment and appeals process.		Theory assessment sighted and checked as satisfactory.	<input type="checkbox"/>
Signature:  Date:		Signature:  Date:	

## CONTENTS

TASK 1: CARRY OUT SAFETY PRECAUTIONS .....	5
TASK 2: TOOLS.....	7
TASK 3: EQUIPMENTS .....	8
TASK 4: PERFORMING BENCH WORK .....	10
TASK 5: IDENTIFYING FITTINGS.....	12
TASK 6: DOMESTIC PIPE FITTING .....	13
TASK 7: INSTALLING WASH HAND BASINS .....	17
TASK 8: INSTALLING SINKS .....	19
TASK 9: INSTALLING A WC PAN .....	21
TASK 10: INSTALLING URINAL .....	23
TASK 11: RIVETING .....	25
TASK 12: SOLDERING.....	27
FINAL PRACTICAL ASSESSMENT SUMMARY .....	29
ASSESSMENT OUTCOME .....	31
VALIDATION OF THE ASSESSMENT.....	32

## TASK 1: CARRY OUT SAFETY PRECAUTIONS

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
<p>(a) Observe safety precautions. This could include:</p> <ul style="list-style-type: none"> <li>▪ Identification of safety hazards</li> <li>▪ Identifications of safety symbols and signs</li> <li>▪ Work suit</li> <li>▪ Safety boot</li> <li>▪ Hard hat</li> <li>▪ Safety goggles</li> <li>▪ Safety gloves</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>(b) Carry out housekeeping. This could include:</p> <ul style="list-style-type: none"> <li>▪ Cleaning of workshops</li> <li>▪ Arranging tools and equipment appropriately</li> <li>▪ Returning tools to their lockers and tool boxes</li> <li>▪ Safe working habits</li> <li>▪ Correct safety habits</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner's comments:

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## TASK 2: TOOLS

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Identify measuring tools. This could include: <ul style="list-style-type: none"> <li>▪ Measuring tape</li> <li>▪ Steel rule</li> <li>▪ Spirit Level</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Identify cutting tools. This could include: <ul style="list-style-type: none"> <li>▪ Hack saw</li> <li>▪ Centre punch</li> <li>▪ Cold chisel</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Identify marking tools. . This could include: <ul style="list-style-type: none"> <li>▪ Centre punch</li> <li>▪ Chalk</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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### TASK 3: EQUIPMENTS

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Carry out threading equipment. This could include: <ul style="list-style-type: none"> <li>operating power threading machine</li> <li>use adjustable stock and dies</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Identify cutting equipment. This could include: <ul style="list-style-type: none"> <li>squaring shear</li> <li>pillar drilling machine</li> <li>pedestal grinder</li> <li>guilotine machine</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Identify welding equipment. This could include: <ul style="list-style-type: none"> <li>Arc welding machine</li> <li>Oxy- acetylene cylinders <ul style="list-style-type: none"> <li>Oxygen cylinders</li> <li>Acetylene cylinders</li> </ul> </li> <li>Tig welding machine</li> <li>Mig welding machine</li> <li>Spot welding machine</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Operate bending equipment. This could include: <ul style="list-style-type: none"> <li>Bending machine</li> <li>Manual hydraulic bender</li> <li>Bar former</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Identify drilling equipment. This could include: <ul style="list-style-type: none"> <li>portable drilling machine</li> <li>pillar drilling machine</li> <li>pedestal drilling machine</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Identify grinding equipment. This could include: <ul style="list-style-type: none"> <li>Angle grinder machine</li> <li>Bench grinding machine</li> <li>Pedestal grinder</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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## Specifications

24 gauge x 50mmx150mm  
26 gauge x 50mm x 150mm  
13mm 300 mm GI pipe  
19 mm x 300mm GI pipe

#### TASK 4: PERFORMING BENCH WORK

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Operate bench work from the specification materials. This could include: <ul style="list-style-type: none"> <li>▪ Filling</li> <li>▪ Marking materials</li> <li>▪ Cutting materials</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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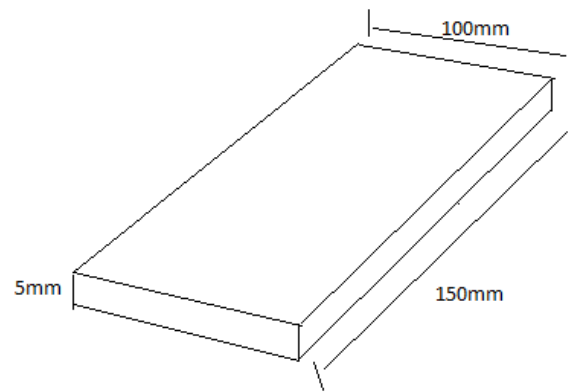
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## Specifications



3mmx50mm x 100mm mild steel

4mm x 50mm x 100mm mild steel

5mm x 50mm x 100mm mild steel

## TASK 5: IDENTIFYING FITTINGS

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Identify Plumbing fittings This could include: <ul style="list-style-type: none"> <li>▪ Tee joint 13mm</li> <li>▪ Elbow 13 mm</li> <li>▪ Socket union 19mm</li> <li>▪ Plain socket 19mm</li> <li>▪ Adaptors 19mm</li> <li>▪ Reducers 13 mm</li> <li>▪ Coupling 19mm</li> <li>▪ Nipple 19mm</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Identify type of pipe sizes. This could include: <ul style="list-style-type: none"> <li>▪ 13mm pipe</li> <li>▪ 19mm pipe</li> <li>▪ 25mm pipe</li> <li>▪ 32mm pipe</li> <li>▪ 38mm pipe</li> <li>▪ 50mm pipe</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*Examiner's comments:*

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## TASK 6: DOMESTIC PIPE FITTING

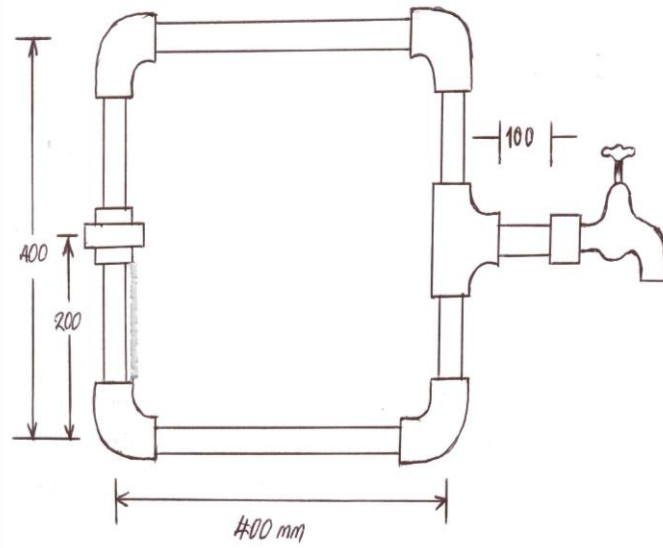
Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
<b>GALVANISED PIPE FITTING</b> (a) Carry out pipe work process from the given specifications. This could include: <ul style="list-style-type: none"> <li>▪ Measuring pipes</li> <li>▪ Marking out the pipes</li> <li>▪ cutting galvanized pipes</li> <li>▪ Threading</li> <li>▪ Applying thread tape/hemp</li> <li>▪ Assembling</li> <li>▪ Dismantling</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>PVC JOINTING</b>  (b) Carry out pipe work process. This include the following: <ul style="list-style-type: none"> <li>▪ Measuring pipes</li> <li>▪ Marking out the pipes</li> <li>▪ cutting galvanized pipes</li> <li>▪ Threading</li> <li>▪ Applying thread tape/hemp</li> <li>▪ Assembling</li> <li>▪ Dismantling</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## PIPE FITTING/ PVC SKETCH



## **SPECIFICATIONS**

- 01 x 19mm Tee joint
- 04 x 19mm Elbow
- 01 x 19mm Socket union
- 01 x 19mm Plain socket
- 01 x 19mm bib tap
- 01 x 19mm long nipple



## TASK 7: INSTALLING WASH HAND BASINS

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Install a hand wash basin. This could include: <ul style="list-style-type: none"> <li>▪ Wall</li> <li>▪ Marking</li> <li>▪ Drilling</li> <li>▪ Mounting</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## **SPECIFICATIONS**

- 01 x Wash hand basin
- 01 x 32 mm / 40mm waste outlet
- 01 x 40 mm P, S and Bottle trap
- 01 x 40mm PVC pipe
- 01 x 40mm PVC elbow with inspection eye
- 01 x Back Inlet Gully (B.I.G)
- 01 X 13m m stop cock
- 3m x 13mm galvanized pipe
- wall

## TASK 8: INSTALLING SINKS

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Install a sink. This could include : <ul style="list-style-type: none"> <li>▪ Wall</li> <li>▪ Marking</li> <li>▪ Drilling/Chiselling</li> <li>▪ Setting screws</li> <li>▪ Mounting</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## **SPECIFICATIONS**

- 40mm waste outlet
- 40 mm P, S and Bottle trap
- 40mm PVC pipe
- 40mm PVC elbow with inspection eye
- Back Inlet Gully (B.I.G)
- 13mm m stop cock
- 13mm galvanized pipe
- Bib tap
- Sink
- wall

## TASK 9: INSTALLING A WC PAN

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Install a WC Pan. This could include: <ul style="list-style-type: none"> <li>▪ Wall</li> <li>▪ Marking</li> <li>▪ Drilling/Chiselling</li> <li>▪ Setting screws</li> <li>▪ Mounting</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner`s comments:

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## **SPECIFICATION**

- 01 X 110mm PVC pipe
- 01 X 110mm PVC bend or tee with inspection eye
- 01 X 110mm PVC soil bend
- 01 X 110mm PVC pan connector
- 01 X 13mm stop cock
- 01 X 13mm galvanized pipe
- 01 X Bib tap
- Wall
- WC pan

## TASK 10: INSTALLING URINAL

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Install a urinal. This could include : <ul style="list-style-type: none"> <li>▪ Wall</li> <li>▪ Marking</li> <li>▪ Drilling/Chiselling</li> <li>▪ Setting screws</li> <li>▪ mounting</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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## SPECIFICATIONS

- 01 X 40mm waste outlet
- 01 X 40 mm P, S and Bottle trap
- 01 X 40mm PVC pipe
- 01 X 40mm PVC elbow with inspection eye
- 01 X Back Inlet Gully (B.I.G)
- 01 X 13m m stop cock
- 01 X 13mm galvanized pipe
- 01 X Stop cock
- Wall
- urinal



## TASK 11: RIVETING

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) perform riveting from the specifications, This could include: <ul style="list-style-type: none"> <li>▪ Preparing of riveting</li> <li>▪ Drilling of holes</li> <li>▪ Obtaining a riveting set</li> <li>▪ Inserting rivets in drilled holes</li> <li>▪ Riveting</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner`s comments:

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Learner`s Name/sign:  
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## **SPECIFICATIONS**

- 26 gauge sheet iron
- 0.4mm x Rivets
- Riveting gun
- Drilling machine
- Centre punch

## TASK 12: SOLDERING

Activity	Satisfactory			Not Satisfactory		
	1	2	3	1	2	3
<b>During observation of work activities, the candidate demonstrated that they can:</b>						
(a) Carry out soldering operation, This could include: <ul style="list-style-type: none"> <li>▪ Preparing soldering work place</li> <li>▪ Heating the soldering iron to the required temperature</li> <li>▪ Tinning the soldering iron</li> <li>▪ Applying spirit of salt to the work</li> <li>▪ Soldering by conduction</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Examiner`s comments:

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Examiner Name/Sign:

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## **SPECIFICATIONS**

- 500mm x 800mm 26 gauge sheet iron
- 3mm pop rivets
- Soldering iron
- Sal- ammoniac flux
- Spirit of salt

## FINAL PRACTICAL ASSESSMENT SUMMARY

Practical assessment summary	Satisfactory	Not Satisfactory
1. Safety	<input type="checkbox"/>	<input type="checkbox"/>
2. Tools	<input type="checkbox"/>	<input type="checkbox"/>
3. Equipment	<input type="checkbox"/>	<input type="checkbox"/>
4. Bench work	<input type="checkbox"/>	<input type="checkbox"/>
5. Fittings	<input type="checkbox"/>	<input type="checkbox"/>
6. Pipe fitting	<input type="checkbox"/>	<input type="checkbox"/>
7. Wash hand basin	<input type="checkbox"/>	<input type="checkbox"/>
8. Sinks	<input type="checkbox"/>	<input type="checkbox"/>
9. WC pans	<input type="checkbox"/>	<input type="checkbox"/>
10. Urinals	<input type="checkbox"/>	<input type="checkbox"/>
11. Riveting	<input type="checkbox"/>	<input type="checkbox"/>
12. Soldering	<input type="checkbox"/>	<input type="checkbox"/>

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## ASSESSMENT OUTCOME

Competent ☐

Not Competent ☐

Learner/Trainee	Assessor/Examiner
Learner/Trainee name: _____ (Print)	Assessor/Examiner name: _____ (Print)
<b>Learner/Trainee comments:</b>	<b>Assessor/Examiner comments:</b>
Signature: _____  Date: _____	Signature: _____  Date: _____

## VALIDATION OF THE ASSESSMENT

NAME:.....

DATE:.....

POSITION: **PRINCIPAL/HEAD OF INSTITUTION**

SIGNATURE:..... NAME INSTITUTION:.....

STAMP:

