

Assessment Evidence Guide

For

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Level-4

Destructive Testing Technician
(Formative Assessment)

8th -12th March 2021



**National Vocational & Technical
Training Commission**

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|--|---|----------|----------|
| Title of Qualification: Destructive Testing Technician | CS Code: | Level: 4 | Version: |
| Competency Standard Title: Perform Torsion test and Fatigue test | Assessment Date (DD/MM/YY): Assessment Time: | | |

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|---------------------------|--|
| Candidate Details | Name: Registration/Roll Number:..... |
| Guidance for Candidate | <p>To meet this standard, you are required to complete the following within the given time frame (for practical demonstration & assessment):</p> <p>Assessment Task 1: Candidate is required to: Measure torsion strength of specimen</p> <p>Assessment Task 2: Candidate is required to: Measure fatigue strength of specimen</p> <p>And complete:</p> <ol style="list-style-type: none"> 1. Knowledge assessment test (Written or Oral) 2. Portfolios at the time of assessment (if any) |
| Minimum Evidence Required | <p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 1</p> <ul style="list-style-type: none"> Inspect the Prepared sample according to the requirements of machine and standard. Fix the sample in the fixture. Adjust speed, torque angle and time of machine Draw torque vs angle graph. Calculate torsion strength. <p>During a practical assessment, under observation by an assessor, you will complete:</p> <p>Assessment Task 2</p> <ul style="list-style-type: none"> Inspect the Prepared specimen according to standard. Grip the samples in fixture. Apply load as per material requirement. Re-zero rotation counter. Turn on the machine and start the test. Observe number of rotation once the material breaks. Calculate fatigue strength by using formula. |

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| | Portfolios required at the time of assessment (if any) for |
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Continued on following page

Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

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|--------------------|---|
| Candidate Details | Name: Registration/Roll Number: Candidate Signature: |
| Assessment Outcome | COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/> Name of the Assessor: Assessor's code: Signature of the Assessor: |

| 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 | | | | | | | |

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|--|--|--|----|---------|
| Each Assessment Task (with performance criteria) | | | | |
| Assessment Task 1 | | Description of assessment task 1 | | |
| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
| | Inspect the Prepared sample according to the requirements of machine and standard. | | | |
| | Fix the sample in the fixture. | | | |
| | Adjust speed, torque angle and time of machine | | | |
| | Draw torque vs angle graph. | | | |
| | Calculate torsion strength. | | | |
| Competent <input type="checkbox"/> | | Not Yet Competent <input type="checkbox"/> | | |

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|--|--|--|----|---------|
| Assessment Task 2 | | Description of assessment task 2 | | |
| During the practical assessment, candidate demonstrated the following: | | Yes | No | Remarks |
| | Inspect the Prepared specimen according to standard. | | | |
| | Grip the samples in fixture. | | | |
| | Apply load as per material requirement. | | | |
| | Re-zero rotation counter. | | | |
| | Turn on the machine and start the test. | | | |
| | Observe number of rotation once the material breaks. | | | |
| | Calculate fatigue strength by using formula. | | | |
| Competent <input type="checkbox"/> | | Not Yet Competent <input type="checkbox"/> | | |
| Each Assessment Task (with performance criteria) | | | | |

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|--|--|--------|----------------|
| Title of Qualification: Destructive Testing Technician | CS Code: | Level: | Version: 01 |
| Competency Standard Title: | Assessment Date (DD/MM/YY): Assessment Time: 30 min | | |

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| Guidance for Candidate | To complete your assessment for this Competency Standard, you need to answer the questions on the following pages successfully. |
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Assessors Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

| | |
|----------------------------|--|
| Candidate Details | Name:..... Registration/Roll Number: Candidate Signature: |
| Written Assessment Outcome | <p>COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/></p> <p>Name of the Assessor: Assessor's code:</p> <p>Signature of the Assessor:</p> |

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|-----------------------------------|--|--------|----------------|
| Title of Qualification: | CS Code: | Level: | Version: 01 |
| Competency Standard Title: | Assessment Date (DD/MM/YY): Assessment Time: 30 min | | |

WRITTEN ASSESSMENT

| Question | Candidate's answer |
|---|---|
| 1. Define destructive test. | The test during which work piece deforms or breaks is known as destructive test. Work piece cannot be used after the test. |
| 2. Why destructive tests are performed? | Destructive tests are performed to determine different mechanical properties of materials. |
| 3. Define shear load. | A shear load is a force that tends to produce a sliding failure on a material along a plane that is parallel to the direction of the force |
| 4. What is shear stress? | When an external force acts on an object, It undergoes deformation. If the direction of the force is parallel to the plane of the object. The deformation will be along that plane. The stress experienced by the object here is shear stress or tangential stress. |
| 5. Write some examples of shear. | Shear stress is involved in, Painting Brushing Applying creams/soaps/lotion/ointment etc. Chewing food between the teeth's. Walking or running while our feet push ground back to move forward. Tightening of screws, etc, |
| 6. Define fatigue. | Fatigue failure is the formation and propagation of cracks due to a repetitive or cyclic load. Fatigue failures are caused by the cyclic loads much below the yield load of the material. |