NOTE ON PERFORMANCE TESTING

Performance Profile Sheet(s) are included in a format that can be easily photocopied for each trainee. Performance tests are designed to measure competency in the tasks taught in each module.

Please note the number of tasks to be tested while teaching each module. Each trainee should be tested on all the tasks listed on the Performance Profile Sheet(s). Before performance testing, the instructor should brief the trainees on:

- Test objectives and criteria
- Safety precautions
- Procedures for each task to be tested

The instructor administering the performance testing should also do the following:

- Ensure that all of the needed equipment is available and operating properly.
- Set up the testing stations.
- Organize and administer the test in a way that allows for optimal performance.
- Complete the Performance Profile Sheet(s) for each trainee by assigning a pass/fail score for each listed task. Also, include the testing date for each task in the rating box.
- Monitor adherence to all safety regulations and precautions.
- Provide adequate supervision to prevent injuries.
- Take immediate and effective action to remedy any emergency.

Performance Testing

If Performance Testing is done as part of the National Center for Construction Education and Research Standardized Craft Training Program, the following conditions must be met:

1. The Craft Instructor must hold valid NCCER instructor certification for the craft being tested.
2. The training must be delivered through an Accredited Training Sponsor recognized by NCCER.
3. For every module, the specific performance testing must be completed to the satisfaction of the instructor.
4. The results of the testing must be recorded on the Training Report Form 200. This form must be provided to the local Accredited Training Sponsor to be forwarded to the NCCER National Registry.

Certified Plus Credential

Provided the sponsor is working through an NCCER-Accredited Assessment Center, candidates who successfully pass performance testing may be eligible for a Certified Plus Credential. A number of NCCER’s Performance Profiles cross over to NCCER’s Assessment Performance Verifications and may be completed simultaneously. Go to www.nccer.org and select the Assessments tab to locate the Performance Verifications associated with this craft. Note two other important conditions are required for the Certified Plus Credential:

1. Candidates must first pass the associated written assessment.
2. An NCCER-Accredited Assessment Administrator must sign off on the Performance Verification before it is submitted to NCCER.
<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>2, 3</td>
<td>1. Lay out perpendicular lines from a reference line using:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Arc method</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- 3-4-5 method</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>4–9</td>
<td>2. Scribe the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Straight lines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Perpendicular lines to a base line using a square</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Perpendicular lines to an edge using a combination square</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Angled lines using a combination square</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Angled lines using a protractor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Circles using dividers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Perpendicular lines from base lines using dividers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Perpendicular lines from base lines using reference points</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>4. Divide lines into equal parts.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>5. Divide circles into equal parts.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>6. Lay out equipment locations.</td>
<td></td>
</tr>
</tbody>
</table>
Craft: Industrial Maintenance Mechanic
Module Number: 32202-07
Module Title: Introduction to Piping Components

TRAINEE NAME: _____________________________________________________________

TRAINEE SOCIAL SECURITY NUMBER: _________________________________________

CLASS: ____________________________________________________________________

TRAINING PROGRAM SPONSOR: _______________________________________________

____________________________________________________________________________

INSTRUCTOR: _______________________________________________________________

Rating Levels: (1) Passed: performed task   (2) Failed: did not perform task
Also, list the date the testing for each task was completed.

Recognition: When testing for the NCCER Standardized Craft Training Program,
be sure to record Performance testing results on Craft Training Report
Form 200, and submit the results to the Training Program Sponsor.

Certified Plus Credential: Trainees who successfully complete these performance tasks may be
eligible for a Certified Plus Credential. Refer to the Note on Performance
Testing of this Performance Profile for eligibility requirements, or contact
NCCER for more information.

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1. Identify the type of piping system designated by the following:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Red color-code</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Yellow color-code</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Green color-code</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bright blue color-code</td>
<td></td>
</tr>
</tbody>
</table>

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Craft: Industrial Maintenance Mechanic  
Module Number: 32203-07  
Module Title: Copper and Plastic Piping Practices

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>1. Correctly measure the diameter of copper tubing.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2. Cut and ream copper tubing using a tube cutter.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>3. Correctly bend copper tubing using bending tools.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>4. Make a swage joint in a section of copper tubing.</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>5. Make and join single flare connections.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>6. Join two sections of tubing using a compression fitting.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7. Cut and join two sections of plastic pipe using appropriate fittings.</td>
<td></td>
</tr>
</tbody>
</table>
**Objective** | **TASK** | **RATING**
--- | --- | ---
1 | 1. Identify types of carbon steel pipe. | 
2 | 2. Identify pipe sizes and weights. | 
4, 5, 6 | 3. Identify various pipe fittings. | 
2 | 4. Use three methods for measuring pipe. | 

**Certified Plus Credential:** Trainees who successfully complete these performance tasks may be eligible for a Certified Plus Credential. Refer to the Note on Performance Testing of this Performance Profile for eligibility requirements, or contact NCCER for more information.
<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5. Apply pipe dope to pipe threads.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6. Apply Teflon® tape to pipe threads.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>7. Assemble threaded pipe to fittings.</td>
<td></td>
</tr>
</tbody>
</table>
Craft: Industrial Maintenance Mechanic
Module Number: 32205-07
Module Title: Identify, Install, and Maintain Valves

TRAINEE NAME: _____________________________________________________________

TRAINEE SOCIAL SECURITY NUMBER: _________________________________________

CLASS: ____________________________________________________________________

TRAINING PROGRAM SPONSOR: _______________________________________________
____________________________________________________________________________

INSTRUCTOR: _______________________________________________________________

Identification, installation, and maintenance of valves are critical skills for industrial maintenance mechanics. This module aims to train participants in identifying various types of valves, explaining their purposes and installation, and performing maintenance tasks such as replacing valve stem O-rings and bonnet gaskets.

**Rating Levels:**
(1) Passed: performed task  (2) Failed: did not perform task
Also, list the date the testing for each task was completed.

**Recognition:**
When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

**Certified Plus Credential:**
Trainees who successfully complete these performance tasks may be eligible for a Certified Plus Credential. Refer to the Note on Performance Testing of this Performance Profile for eligibility requirements, or contact NCCER for more information.

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>1. Identify various types of valves and explain their purposes and installation.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2. Replace a valve stem O-ring.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>3. Replace a bonnet gasket.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4. Repack a valve.</td>
<td></td>
</tr>
</tbody>
</table>
Module 32206-07 has no Performance Profile Sheet; no performance testing is required for this module.
# PERFORMANCE PROFILE SHEET

**Craft:** Industrial Maintenance Mechanic  
**Module Number:** 32207-07  
**Module Title:** Introduction to Bearings

---

**TRAINEE NAME:** _____________________________________________________________

**TRAINEE SOCIAL SECURITY NUMBER:** _________________________________________

**CLASS:** __________________________________________________________________

**TRAINING PROGRAM SPONSOR:** _______________________________________________

---

**INSTRUCTOR:** _______________________________________________________________

---

**Rating Levels:**  
(1) Passed: performed task  
(2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:**  
When testing for the NCCER Standardized Craft Training Program,  
be sure to record Performance testing results on Craft Training Report  
Form 200, and submit the results to the Training Program Sponsor.

**Certified Plus Credential:**  
Trainees who successfully complete these performance tasks may be  
eligible for a Certified Plus Credential. Refer to the Note on Performance  
Testing of this Performance Profile for eligibility requirements, or contact  
NCCER for more information.

---

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1. Identify various types of bearings.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2. Identify parts of bearings.</td>
<td></td>
</tr>
</tbody>
</table>
**Objective** | **TASK** | **RATING**
--- | --- | ---
3 | 1. Identify types of steam traps and components of installations. | 
6 | 2. Diagnose specific problems on faulty steam traps, and demonstrate safety procedures and proper corrective actions. | 
7 | 3. Identify piping distribution systems used with steam systems. | 

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PERFORMANCE PROFILE SHEET

Craft: Industrial Maintenance Mechanic

Module Number: 32209-07

Module Title: High-Pressure Steam Systems and Auxiliaries

INSTRUCTOR: _______________________________________________________________

TRAINEE NAME: _____________________________________________________________

TRAINEE SOCIAL SECURITY NUMBER: _________________________________________

CLASS: ____________________________________________________________________

TRAINING PROGRAM SPONSOR: _______________________________________________

____________________________________________________________________________

Rating Levels: (1) Passed: performed task   (2) Failed: did not perform task

Also, list the date the testing for each task was completed.

Recognition: When testing for the NCCER Standardized Craft Training Program,

be sure to record Performance testing results on Craft Training Report

Form 200, and submit the results to the Training Program Sponsor.

Certified Plus Credential: Trainees who successfully complete these performance tasks may be

eligible for a Certified Plus Credential. Refer to the Note on Performance

Testing of this Performance Profile for eligibility requirements, or contact

NCCER for more information.

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1. Identify the components of a high-pressure steam system and its auxiliaries.</td>
<td></td>
</tr>
</tbody>
</table>
Craft: Industrial Maintenance Mechanic  
Module Number: 32210-07  
Module Title: Distillation Towers and Vessels

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2</td>
<td>1. Explain the proper safety procedures and correct PPE to work in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>confined spaces.</td>
<td></td>
</tr>
</tbody>
</table>
### Performance Profile Sheet

**Craft:** Industrial Maintenance Mechanic  
**Module Number:** 32211-07  
**Module Title:** Heaters, Furnaces, Heat Exchangers, Cooling Towers, and Fin Fans

---

**Trainee Name:**  
**Trainee Social Security Number:**  
**Class:**  
**Training Program Sponsor:**

---

**Instructor:**

**Rating Levels:**  
(1) Passed: performed task  
(2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:**  
When testing for the NCCER Standardized Craft Training Program, be sure to record Performance testing results on Craft Training Report Form 200, and submit the results to the Training Program Sponsor.

**Certified Plus Credential:**  
Trainees who successfully complete these performance tasks may be eligible for a Certified Plus Credential. Refer to the Note on Performance Testing of this Performance Profile for eligibility requirements, or contact NCCER for more information.

---

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1. Identify the components of heat exchangers chosen by the instructor.</td>
<td></td>
</tr>
</tbody>
</table>
## INTRODUCTION TO TUBE WORK — MODULE 32212-07 PERFORMANCE PROFILE

**Craft:** Industrial Maintenance Mechanic  
**Module Number:** 32212-07  
**Module Title:** Introduction to Tube Work

**TRAINEE NAME:** _____________________________________________________________

**TRAINEE SOCIAL SECURITY NUMBER:** _________________________________________

**CLASS:** ____________________________________________________________________

**TRAINING PROGRAM SPONSOR:** _______________________________________________

**INSTRUCTOR:** _______________________________________________________________

**Rating Levels:**  
(1) Passed: performed task  
(2) Failed: did not perform task  
Also, list the date the testing for each task was completed.

**Recognition:**  
When testing for the NCCER Standardized Craft Training Program,  
be sure to record Performance testing results on Craft Training Report  
Form 200, and submit the results to the Training Program Sponsor.

**Certified Plus Credential:**  
Trainees who successfully complete these performance tasks may be  
eligible for a Certified Plus Credential. Refer to the Note on Performance  
Testing of this Performance Profile for eligibility requirements, or contact  
NCCER for more information.

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1. Identify rolling equipment.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2. Select the tools necessary for rolling tubes.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3. Identify types of plugs.</td>
<td></td>
</tr>
</tbody>
</table>