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 a 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.
Module 12305-03 has no Performance Profile Sheet; no performance testing is required for this module.
### Objective 2

1. Find the point where Fahrenheit equals Celsius.

### Objective 2

2. Do three temperature conversions, using figures provided by your instructor.

### Objective 3

3. Calculate differential pressure using values provided by your instructor.

### Objective 3

4. Calculate the volume of a vessel using variables provided by your instructor.
Module 40206-08 has no Performance Profile Sheet; no performance testing is required for this module.
**Performance Profile Sheet**

Craft: Industrial Maintenance E & I Technician

Module Number: 40211-08

Module Title: Instrument Drawings and Documents, Part One

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 6</td>
<td>1. Locate and identify drawing elements as specified by your instructor.</td>
<td></td>
</tr>
</tbody>
</table>

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.
INSTRUMENTATION LEVEL ONE — MODULE 12104-01 PERFORMANCE PROFILE
Objective TASK

1. Select and install various types of relays.

2. Select and install various types of timers.
Objective | TASK | RATING
---|---|---
1, 2, 3, 4 | 1. Select and install various switches. | 
6, 7 | 2. Select and install various photoelectric devices. | 

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.

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.
**Objective** | **TASK** | **RATING**
---|---|---
5 | 1. Bend copper tubing at 45-degree and 90-degree angles using a compression-type bender. |  
4 | 2. Cut and deburr copper tubing using a hacksaw or tubing cutter. |  
4 | 3. Cut and deburr stainless steel tubing. |  

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<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>4. Install a flare fitting on a section of copper tubing.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>5. Properly make up an instrument tubing connection with a compression fitting, then loosen and re-tighten it.</td>
<td></td>
</tr>
</tbody>
</table>
## Performance Profile Sheet

Craft: Industrial Maintenance E & I Technician

Module Number: 40309-09

Module Title: Layout and Installation of Tubing and Piping Systems

---

**Trainee Name:** _____________________________________________________________

**Trainee Social Security Number:** _________________________________________

**Class:** __________________________________________________________________

**Training Program Sponsor:** _______________________________________________

**Instructor:** _____________________________________________________________

### Rating Levels:

1. Passed: performed task  
2. Failed: did not perform task

**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. Given a partial system equipment location diagram (one loop) and observing all considerations covered in this module, create an isometric drawing of the given loop.</td>
<td></td>
</tr>
<tr>
<td>2, 3</td>
<td>2. Measure and bend the tubing sections in the loop and select the fittings needed to install the layout shown in the isometric drawing in Performance Task #1.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>3. Indicate the types and locations of minimal support needed for the tubing installation.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>4. Make up compression fittings on tubing.</td>
<td></td>
</tr>
<tr>
<td>Objective</td>
<td>TASK</td>
<td>RATING</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>6</td>
<td>1. Set up and perform a pressure leak test.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>2. Inspect the system to verify there is no leakage.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3. Perform a blowdown/purge.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>4. Document the test results and restore the system to be service-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ready.</td>
<td></td>
</tr>
</tbody>
</table>

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.

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.
Objective 6
1. Using a cross reference manual, identify a substitute for a selected electronic component.

Objective 5
2. Build a simple bridge rectifier circuit and view the results.

Objective 12
3. Check diodes.
Objective | TASK | RATING
--- | --- | ---
2 | 1. Lay out an instrument panel. | 
3 | 2. Install an instrument in a panel. | 
# Performance Profile Sheet

**Craft:** Instrumentation  
**Module Number:** 12213-03  
**Module Title:** Installing Field-Mounted Instruments

---

**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.

---

## Objective TASK RATING

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1. Fabricate a floor-mounted instrument stand.</td>
</tr>
<tr>
<td>3</td>
<td>2. Install an orifice plate between two flanges.</td>
</tr>
<tr>
<td>3</td>
<td>3. Assemble and install a thermowell assembly on a section of 4-inch process piping.</td>
</tr>
</tbody>
</table>

---

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### Module Title: Installing Field-Mounted Instruments

<table>
<thead>
<tr>
<th>Objective</th>
<th>TASK</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>4. Identify selected pipe flange facings.</td>
</tr>
<tr>
<td>4</td>
<td>5. Identify selected pipe flange gaskets.</td>
</tr>
</tbody>
</table>
**Objective** | **TASK** | **RATING**
---|---|---
1,2 | 1. Identify and explain the function of an equipment ground in a given drawing. | 
6 | 2. Draw an example of a ground loop. | 
7 | 3. Identify and explain the function of an equipment shield in a given drawing. |
Module 12408-03 has no Performance Profile Sheet; no performance testing is required for this module.