



Insulating

Level Two

EXAMINATION PACKET

Module 19207 Installing Board and Block Insulation

This packet contains the reproducible Module Examination, Answer Key, and Performance Profile Sheet(s).

**STORE IN A
SECURE AREA!**

**NATIONAL CENTER FOR
CONSTRUCTION EDUCATION AND RESEARCH**

Pearson Education, Inc.

Upper Saddle River, New Jersey Columbus, Ohio

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Name: _____

Date: _____

Social Security Number: _____

- | | | | |
|-------|--|-------|--|
| _____ | 1. Which of the following materials, in flat sheet form, is not usually called "board"? | _____ | 6. Approximately how many 3-inch wide lags are required to cover a 36 inch diameter tank (including insulation), 36 inches long? |
| | a. Fiberglass
b. Polystyrene
c. Calcium silicate
d. Polyurethane | | a. 48
b. 24
c. 38
d. 93 |
| _____ | 2. Beveled segments of block are called _____. | _____ | 7. Joints or cracks in block installed on a hot tank should be no wider than _____. |
| | a. miters
b. lags
c. curved segments
d. molded segments | | a. 1/8 inch
b. 1/4 inch
c. 3/8 inch
d. 1/2 inch |
| _____ | 3. The point where the curved end section of a tank meets the straight wall is the _____. | _____ | 8. Board or block insulation should fit tight to the surface to which they are applied and should have no void greater than _____. |
| | a. convex
b. tangent
c. radius
d. juncture | | a. 1/8 inch
b. 1/4 inch
c. 3/8 inch
d. 1/2 inch |
| _____ | 4. Board or block insulation may be temporarily held in place by _____. | _____ | 9. The preferred method of applying board or block insulation to tank sidewalls is to use _____. |
| | a. rubber bands
b. adhesive
c. stainless steel bands
d. weld pins | | a. adhesive
b. wire
c. bands
d. weld pins |
| _____ | 5. In a double-layer application, all joints in board or block insulation should be _____. | | |
| | a. sealed
b. mudded
c. open
d. staggered | | |

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- _____ 10. Vessels with diameters greater than _____ should have anchor points for bands.
- 19 feet
 - 10 feet
 - 12 feet
 - 20 feet
- _____ 11. Insulation support rings should be installed on _____ centers.
- 10 foot
 - 20 foot
 - 15 foot
 - 12 foot
- _____ 12. The bottom course of insulation of a large diameter tank might be _____.
- calcium silicate
 - cellular glass
 - fiberglass
 - rigid foam
- _____ 13. Hand-cut lags should _____.
- be used in an emergency
 - always be used
 - never be used
 - be used on small jobs
- _____ 14. To determine the Outside Insulation Circumference, you should first add _____ to the vessel diameter.
- the insulation thickness
 - half the insulation thickness
 - nothing
 - two times the insulation thickness
- _____ 15. If the outside circumference is 360 inches and you want to use 4 inch lags, the number of lags per course will be _____.
- 120
 - 180
 - 90
 - 45
- _____ 16. If the height of vessel sidewall is 12 feet and you are applying calcium silicate block, the number of courses of block will be _____.
- 4
 - 8
 - 12
 - 6
- _____ 17. Using the lag chart for 1-1/2 inch block, the inside dimension of a lag to fit a 40-foot diameter tank will be _____.
- 3-1/16
 - 1-7/8
 - 2-7/8
 - 2
- _____ 18. The number of lags per course for the tank in question 17 will be _____.
- 44
 - 34
 - 56
 - 48

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- _____ 19. Weld pins are normally installed on _____ centers.
- a. 18-inch
 - b. 24-inch
 - c. 12-inch
 - d. 6-inch
- _____ 20. An expansion joint on a vessel sidewall is packed with _____.
- a. cellular glass
 - b. calcium silicate
 - c. rigid foam
 - d. fiberglass

NOTE ON PERFORMANCE PROFILE TESTING

Performance Profiles are included in this Instructor's Guide in a format that can be easily photocopied for each trainee. The Profiles measure trainee competency in the tasks taught in this module.

Please note the number of tasks to be tested while teaching this module. Each trainee should be tested on the tasks listed in the Performance Profile. Before the performance testing, the instructor should brief the trainees on:

- test objectives and criteria,
- safety precautions, and
- 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 for each trainee by assigning a score for each listed task;
- monitor adherence to all safety regulations and precautions;
- provide adequate supervision to prevent injuries; and
- take immediate and effective action to remedy any emergency.

ACCREDITATION TESTING

If this Performance Profile Testing is done in 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.
2. The training must be delivered through a Training Program Sponsor recognized by the 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 Craft Training Report Form. This form must be provided to the local Training Program Sponsor to be forwarded to the NCCER National Craft Training Registry.

Craft: Insulating

Task Module Number: 19207

Task Module Title: Installing Board and Block Insulation



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 Profile testing results on Craft Training Report Form 200 and submit the results to the Training Program Sponsor.

TASK	RATING
1. Using the vessel mock-up, determine the number of courses of block, the number of lags, and the angle required on the lags. Assume an insulation thickness of 2 inches.	
2. Insulate the sidewall of the vessel mock-up using lags calculated from Task 1. <i>Be sure to include the use of a choker for a manway cover tie-off.</i>	
3. Insulate the bottom head of the vessel mock-up.	

Answer Key to Module Examination

<u>Answer</u>	<u>Section</u>
1. c	1.0.0
2. b	2.2.0
3. b	2.2.0
4. a	2.2.0
5. d	2.3.0
6. c	3.0.0
7. a	2.2.0
8. a	2.2.0
9. c	2.2.0
10. c	2.3.0
11. d	2.3.0
12. b	2.3.0
13. a	3.0.0
14. d	3.0.0
15. c	3.0.0
16. a	3.0.0
17. c	3.0.0
18. a	3.0.0
19. c	2.1.0
20. d	2.1.0