

# **MINIMUM INDUSTRY TRAINING CRITERIA**

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## **TILE LAYER**

**O\* NET CODE 47-2044.00**

**TILE INDUSTRY ADVISORY COMMITTEE  
PRESENTED to the CALIFORNIA APPRENTICESHIP COUNCIL  
Revision 2**

**Rev: October 29, 2010**

## **Minimum Industry Training Criteria for Tile Layer**

Cal. Admin. Code title 8, § 212.01212.01 State-Wide Minimum Industry Training Criteria

### **1. Length of Training**

Program sponsors shall establish a minimum three (3) year program of not less than 4500 hours of on the job training.

### **2. Related Supplemental (Classroom) Instruction**

The required prescribed course of related and supplemental instruction shall be no less than 120 hours per year and include the related and supplemental training processes listed on appendix A.

### **3. On the Job Training**

See APPENDIX B: Tile Layer Work Processes

### **4. Competency Testing**

All apprentices must demonstrate proficiency through written examinations and manipulative testing prior their classification advancement to the next higher level. The test shall be based on their related and supplemental instruction”)

### **5. Apprenticeship program Completion Percentages**

Of those apprentices that satisfactorily complete the probationary period, program sponsors must have a completion rate of no less than 35%

### **6. Procedures for Review and Revision of Training Criteria**

The Tile Industry Advisory Committee shall meet at the call of the chair or no less than once each three (3) years to review and revise if necessary the industry training criteria. Any and all such industry training criteria for Tile Layer shall be in accordance with the California Code of Regulations, Title 8 section 212.01 in its entirety.

## APPENDIX A: Tile Layer Related Supplemental Instruction

### 1. Orientation to The Tile Trade/ Health & Safety:

- a. Terms and definitions
- b. Brief history & scope of masonry trade and apprenticeship
- c. Advantages of apprenticeship
- d. Basics, rules and regulations of the apprenticeship program
- e. ANSI standards and the TCNA Handbook
- f. Sexual harassment and non-discrimination in the workplace
- g. Ways EEOC rules affect the apprenticeship program
- h. OSHA Safety Rules and Regulations
- i. Expectations of the employer and the employee in their relationship
- j. Guidelines for handling the first day on the job
- k. Ways to get along with a supervisor
- l. Ways to get along with co-workers
- m. Reasons people lose jobs
- n. Developing a good safety attitude
- o. Green Component- Protecting the environment in the work place (environmental awareness). Introduction to Leadership in Energy and Environmental Design (LEED) as it relates to the installation of ceramic tile and stone.

#### Health & Safety:

Physical hazards, health hazards, overuse syndromes. The course covers protective equipment, scaffolding safety, work place safety and the law, protecting others and substance abuse. Protecting the environment in the work place (Environmental Awareness), Introduction to Leadership in Energy and Environmental Design (LEED) as it relates to the installation of ceramic tile and stone (Green)

### 2. Tile, substrates and bonding:

Course covers all types of tile, their properties, substrate inspections and layout. Also covered are trim, numbering, backings, bonding to various surfaces and surface preparation. The course introduces the student to systems and working procedures.

### 3. Floors:

Principles of floor layouts, installation, both mortar method and thin-set. Course covers layouts including diagonals and patterns, installing bases and fresh floors.

### 4. Walls:

Course covers the principles of layout, inspection and installation of walls (mortar and thin-set), tubs, showers, steam rooms, glass mosaics and building exteriors

### 5. Natural Stone:

Course covers layout and installation and edging all types of stone tile and their properties as well as special tools and equipment.

### 6. Countertops:

Course covers the layout, inspection and installation of kitchen counters and vanity tops

- 7. Codes, repairs/renovation:**  
Course covers publications and standards for tile work; including building codes, repairs and punch lists and renovation work.
- 8. Math for tile work / 3-view drawings/scale:**  
Course covers the application of basic math and geometry principles to tile work as well an introduction to reading prints.
- 9. Working with architectural drawings:**  
Course covers blueprint reading, plain views, elevation views, structural details, specifications and contracts and large and small commercial project layouts.
- 10. Watertight installations:**  
Course covers the principles of layout, inspection and installation of water proof membranes, shower pans, fountains, pools and spas.
- 11. Math II / Commercial layout: 8 hours**  
Course covers the application of advanced math and geometry principles including the layout of complex designs.
- 12. Stairs:**  
Course covers the principles of layout, inspection and installation of stairs.
- 13. Radius, column:**  
Course covers the principles of layout, inspection and installation curved and circular walls and columns.
- 14. Arches, domes:**  
Course covers the principles of layout, inspection and installation of various types of arches, inner and outer domes.
- 15. Manipulative skill tests.**  
These tests require the apprentice to demonstrate sufficient skill to complete the following projects with a score of 90% or better – Hawk & Trowel, 3-Wall Shower, Tub with Window, 2 Drain Commercial Floor, Kitchen Counters, Vanity, and the final test Radius Column, Arch or Dome
- 16. First Aid /CPR certification**
- 17. Electives.** Six credits (two class days) of practical application of tile principles such as the annual run-off contest, charity projects, permanent installations at school, etc., at the apprentice's choice.

## APPENDIX B: Tile Layer Work Processes

<u>Work Process</u>	<u>Approximate Hours</u>
1. Layout and preparation of surfaces for tile application Includes substrate inspection, layout, preparation, mixing of base materials such as mortar and applies to walls, floors and ceilings. Preparation, mixing and application of bonding materials such as dry-set Portland cement, Latex-Portland, organic adhesives, mastics or other bonding material. Covers the handling and maintenance of equipment in accordance with established procedures and safe practices. Mud Mixing / Bonding Materials- Enhanced environmental practices for the handling and disposal of materials. (green) Emerging green materials and practices in the installation of tile & stone. (green)	700
2. Repairs, patches surfaces, grouts tile, mixes and applies all types of cleaning materials including acids.	200
3. Examines blueprints, measures and marks surfaces to be covered and layout work.	105
4. Layout, preparation and installation of walls, showers, jambs, ceilings and veneers for residential and commercial applications. Includes spreading and leveling of base materials, plumb scratching, scratching and screeding. LEEDs architectural considerations in the use of ceramic tile and stone. (green)	1,960
5. Layout, preparation and installation of counters and sinks	375
6. Layout, preparation and installation of all types of floors including quarry tile work of all types.	1,100
7. Layout, preparation and installation of mantels, hearths, domes and arches	60
<b>TOTAL</b>	<b>4,500</b>



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The minimum training criteria for Tile Layer, O\*NET 47-2044.00 is hereby adopted and submitted for approval to the Chief of the Division of Apprenticeship Standards on October 15, 2010 by the California Apprenticeship Council Tile Industry Advisory Committee

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