

**ROOFING &
WATERPROOFING**
Industry Training Criteria

DOT CODE: 866.381.010

Roofing and Waterproofing Minimum Industry Training Standards

DOT CODES 866.381.010

1. Length of Training

Program sponsors shall establish a minimum of a 42 month program of not less than 4,000 hours of on-the-job training.

2. Related Supplemental Instruction

The required prescribed courses of related and supplemental instruction shall be no less than 144 hours per year. This instruction must include at a minimum the related and supplemental training processes listed in Exhibit "A".

3. On-the-Job Training

Skills to be learned. See Exhibit "B".

4. Competency Testing

Program sponsors shall establish written testing procedures for evaluating the readiness of apprentices to advance from one period of apprenticeship to the next. The competency of apprentices shall be measured according to their knowledge of Related and Supplemental Instruction topics and mastery of applicable skills.

5. Completion Percentages

Program sponsors must have a graduation rate of at least 20% of those apprentices who satisfactorily complete the program's probationary period consisting of 1,000 on the job training hours and 72 hours of classroom instruction. "Graduation" means that an apprentice has completed the program and has been awarded a state trade certificate. The "graduation rate" is to be calculated according to the formula presented in Exhibit "C".

6. Revisions

The schedule for revisions to the Roofing Industry training criteria shall be in accordance with 8 CCR 212.01(c).

EXHIBIT "A"

Related and Supplemental Instruction Topics
For Roofing and Waterproofing Industry Criteria

DOT CODE 866.381.010

RELATED AND SUPPLEMENTAL INSTRUCTION TOPICS

- Safety
- Orientation
- Use and care of tools & equipment
- Materials
- First-aid & CPR Certification
- Built-up Roofing
- Waterproofing & Damp proofing
- Cold applied roofing & Caulking
- Tile and Rigid Roofing
- Asphalt & Wood Shingles
- Plans & Specifications/Codes & Regulations
- Single Ply Systems
- Metal Roofing
- Maintenance , Repair & Service
- Fluid/Spray Applied Systems
- Trade Math
- Ventilation
- Deck Coatings & Systems
- Pedestrian & Vehicular Traffic Systems
- Integrated Solar/Photovoltaic Systems

EXHIBIT "B"

ON THE JOB TRAINING

The work processes in which the apprentice shall be trained are as follows. Work processes will not necessarily be in the order listed nor will they necessarily be continuous.

<u>WORK PROCESSES-ROOFERS / WATERPROOFERS</u>	<u>APPROXIMATE HOURS</u>
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|--|-----|
| A. Preparation (may include, but not limited to the following) | 800 |
| <ul style="list-style-type: none">• Removal of Membrane or roof system• Prepare the deck, substrate, foundation or slab, including necessary repairs and fastening• Load Roof of various types of roofing materials and equipment• Measure and cut various materials• Drainage | |

* No more than 50% of work hours can be in any one subcategory

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|---|------|
| B. Application (may include, but not limited to the following) | 2400 |
| <ul style="list-style-type: none">• Built-up• Insulation• Shingle systems• Single Ply Systems• Tile & Rigid Materials• Metal roofing• Flashings & Roofing Accessories• Damp proofing/Moisture Barriers, Retarders, Liners and Protection• Waterproofing• Caulking, Sealants and Injectable Systems• Fluid Applied Systems• Foam/Spray systems• Ballast & Pavers• Living Roofs/Green Roof Systems | |

* No more than 50% of work hours can be in any one subcategory

- | | |
|---|-----|
| C. Miscellaneous (may include, but not limited to the following) | 800 |
| <ul style="list-style-type: none">○ Job planning and safety○ Repairs | |

- Maintenance
- Kettle /Tanker use and safety
- Equipment use and Safety
- Integrated Solar, Photovoltaic Systems

* No more than 50% of work hours can be in any one subcategory

Total 4000

EXHIBIT "C"

**Computational Basis For Determining
Annual Completion Ratios
For Graduating Roofing Apprentices**

Basis: The annual completion ratio for each current year is reckoned on the previous average four years of indentured apprentices into the program, adjusted for probationary term drop outs of indentures with less than 1000 hours in the program, and an annualization factor adjustment for the number of 6 month steps (7 steps for this trade) which is labeled as (SA) for "step adjustment."

The factors:

- AAI = Annual Apprentices into program
- PPD = Percentage of Apprentices Discharged Prior to 1000 hrs probation period.
- SA = Step adjustment
- AAA = Four (4) year average of apprentices (minus step adjustment) indentured.
- ACA = Annual Completion Average (measured year back four)
- CP = Completion Percentage

Formula:

$$CP = \frac{ACA}{AAA-PPD}$$

Below is an "Access" generator showing possible results based on the above factors:

Year Lookup: 2004		Year: 2005		Add Yr		Prev Yr		Next Yr	
Apprentices Entering Program During Year :	175	Appr Entering--4 Yr Avg :	181						
Apprentices Discharged from Program During Year :	85	Appr Discharged--4 Yr Avg :	83						
Apprentices Completing Program During Year :	35	Appr Completing--4 Yr Avg :	39						
Annual Apprentices In (AAI):	181	Percentage of Appr Discharged (PPD):	45.86%						
Annual Step Adjustment (SA):	14.28%	AAA Less PPD:	84						
Adjusted Annual Avg (AAA):	155	Annual Completion Average (ACA):	39						
		Completion Percentage (CP):	46.43%						



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