CERTA

Authorized Trainers Guide








Torch-applied Roof System Safety

CERTA Program

11/2025

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PROGRAM POLICIES AND PROCEDURES

Program Introduction

Thank you for making the effort to be a CERTA authorized trainer.

CERTA has changed the way workers use torches. Roofing workers today are using torches more carefully than in the past. The decisions they make and actions they take while using roofing torches contributes to the safe and successful application of torch-applied roof systems. Your commitment to being a trainer is improving the safety and image of the entire roofing industry.

This CERTA Authorized Trainers Guide provides specific instructions to prepare for and facilitate successful CERTA training sessions to certify torch users. These instructions represent minimum activities and time allotments for conducting CERTA training classes. The appendix to this guide provides updated language in The NRCA Roofing Manual as well as pages from the manual.

NRCA provides complete facilitation guides for certification and recertification classes. They contain speaking notes, instructions for learning activities and questions designed to prompt participants' learning. You are encouraged to modify these instructions to change time allotments and create your own training activities to meet the needs of the workers you train.

In 1986, the MRCA, in conjunction with the Asphalt Roofing Manufacturers Association and the United Union of Roofers, Waterproofers and Allied Workers, developed a curriculum for training roofing workers in the safe application or torch-applied roof systems. This program was named the CERTA program.

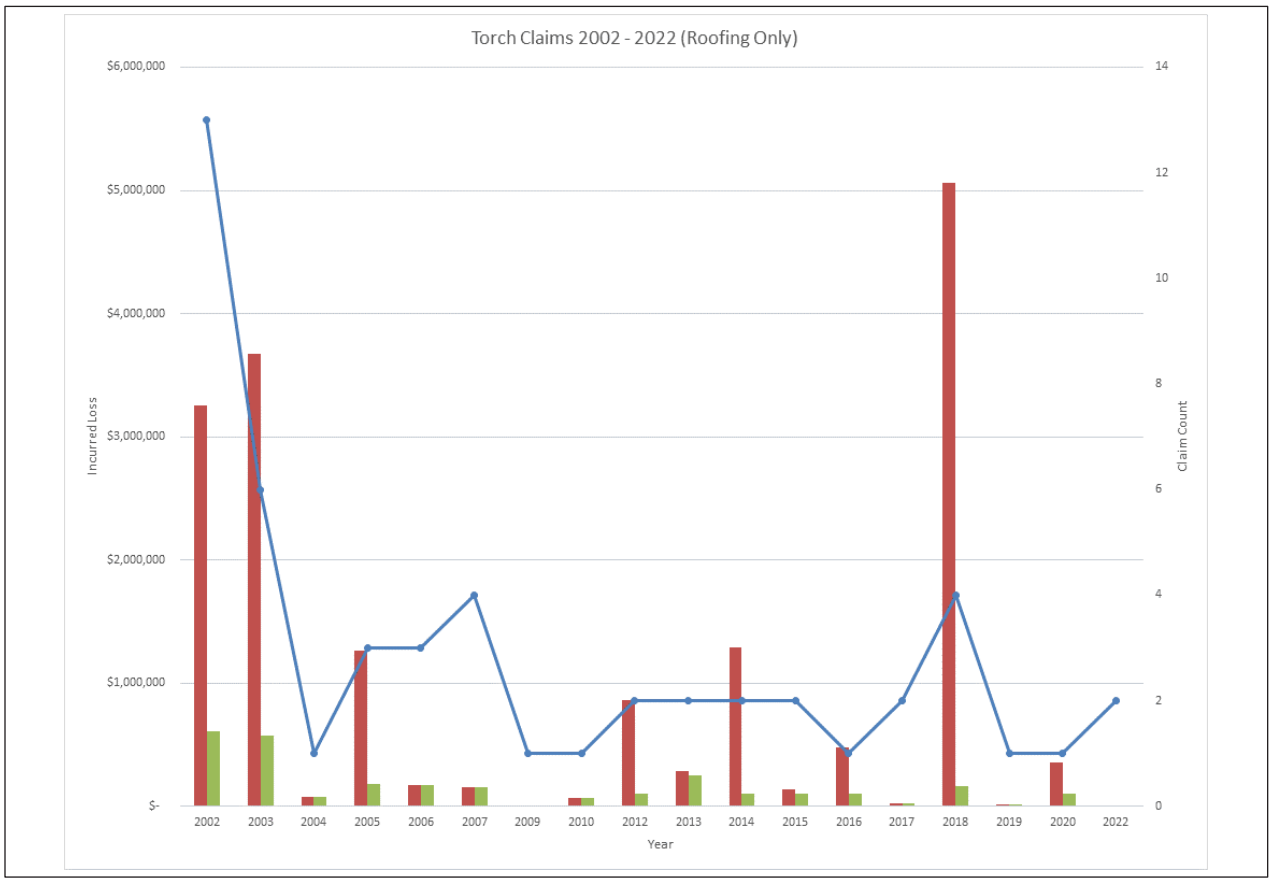
In 2003, the insurance industry approached NRCA to address concerns about increasing incidents and losses occurring during torching activities by roofing contractors. NRCA recognized two things: Torching activities were, and will continue to be, a part of the roofing industry; and roofing workers traditionally have learned many skills, including torch use, through on-the-job techniques. This training method was not adequately addressing the safety concerns, and the need for focused training for safe torch use became apparent. NRCA adopted and revised the CERTA program to meet this need.

The CERTA program provides safety practices and industry requirements for torching activities. The program includes classroom instruction, student manual, video and hands-on training. There is no comparable safety training program available in the roofing industry. CERTA-authorized trainers must teach or preside over every CERTA class.

The program addresses concerns of roofing contractors, the insurance industry, fire and code authorities, roofing material manufacturers, equipment manufacturers and fuel suppliers. Upon successful completion of the classes you will teach, participants will be certified roofing torch applicators. CERTA identification cards will be issued to those who become certified, and a list of certified applicators will be maintained in the NRCA database. This certification is valid for three years though it may be rescinded at any time if a certified worker is observed performing unsafe work practices.

Program Success

Roofing torch-related fire incidents have decreased significantly since 2002 when the CERTA program was implemented. The following data regarding losses paid for fire damage caused by improper use of a roofing torch was shared by CNA, a major U.S. insurance underwriter that offers general liability coverage to roofing contractors.



The CERTA program has had a significant impact on the number of torch-related incidents, yet claims can be extremely costly as seen in 2018 when two serious fires resulted in massive payouts. In 2017, FM Global recommended the use of CERTA applicators on FM-insured buildings.

Key Learning Objectives

Upon successful completion of CERTA certification training, participants will be able to:

- List personal protective equipment requirements for torching activities
- Describe basic first-aid procedures associated with torching injuries
- Describe the PASS system for using a fire extingusher
- Identify the key elements of a comprehensive pre-job inspection
- Prescribe hazard controls when torching near hazardous areas
- Name the components of a roofing torch assembly
- Explain proper steps and procedures for handling propane gas cylinders
- Recognize hazardous areas for torching
- Describe safe torching techniques to use near hazardous areas
- Explain the post-job fire watch and other duties
- Demonstrate all skills listed in the Certification Teaching Notes

Upon completing the CERTA recertification training, participants will be able to*:

- Explain the purpose of each published safety practice
- Identify the safety practice that best applies to given situations
- Identify common fire hazards encountered during torch-applied installations
- Prescribe application methods that reduce fire risks when torching near hazardous areas
- Demonstrate all skills listed in the Recertification Teaching Notes

*It is expected that recertified participants will be able to accomplish all of the objectives listed for the certification class as well as those specified for the recertification class. By definition, course objectives should determine class content and be measureable. Because the recertification class is shorter than the certification class, it is not reasonable to specify the same number of specific objectives.

Trainer Resources

Authorized Trainer Database

NRCA's CERTA program administrator maintains a secure database of all current and past authorized CERTA trainers. It is the responsibility of authorized trainers to update their contact information via their trainer portal.

Individuals, groups or organizations interested in receiving certification training may find your contact information on the NRCA website. You are not obliged to respond or conduct additional training. This is a service to the roofing industry not to any one company or trainer.

Website

NRCA maintains a website for authorized CERTA trainers. The website allows trainers to download program materials, including student manuals, authorized trainers guide, administrative tools and other resources designed to assist with training efforts. The only documents not available on the website are student final exams and answer keys. Exams and answer keys will be uploaded to the trainer portal when trainers register training sessions and they have been approved by the CERTA program administrator. The website is nrca.net/education/certa/trainer-resources.

Program Update

Occasionally, the CERTA program administrator will contact authorized trainers to communicate program updates.

Training Session Requirements

Training Session Size

The maximum number of participants for a single eight-hour CERTA session facilitated by one instructor is 20. One authorized instructor cannot safely observe more than 20 participants during a hands-on training session. A session size may be increased provided additional authorized instructors assist with the hands-on training section of the program. The ratio of instructors to participants for the hands-on section must remain 1:20.

Training Session Duration

Certification

Conducting a CERTA certification session requires a minimum of five hours of classroom instruction plus a minimum of three hours of hands-on training for a full class of 20. Smaller class sizes may or may not reduce these times. All material must be fully addressed regardless of class size. Detailed schedules, including times, can be found in each section of the trainers' notes.

Recertification

A CERTA recertification session must comprise a minimum of two hours of classroom instruction and two hours of hands-on activity for a class of 20.

Mixed (certification and recertification) class

When teaching a class in which there are participants being certified and recertified, the full eight-hour class is recommended for everyone though you are permitted to be creative as long as you meet the minimums and achieve the objectives. First-time participants may not be certified in a half-day recertification class.

Training Session Registration

You must register each session at least three business days in advance via your CERTA trainer portal. Trainers can access their portal by logging in to NRCA's website using their email as their username.

After trainers register sessions, the CERTA program administrator will issue training session numbers via email. Emails will include the link to the trainer resources web page where class documentation can be accessed.

After a class has been approved, the exam and answer key will be available in the trainer's portal. If the class date changes or the session is canceled, the trainer must notify the CERTA program administrator at CERTAadmin@nrca.net.

Trainers should NOT proceed with training unless they have a session number from NRCA. Training conducted without being registered WILL NOT be recognized.

Training Session Quality Control

The success of any training program depends on the quality of instruction. CERTA training can significantly affect roofing worker safety and reduce property damage. As an authorized CERTA trainer, your job is to provide effective instruction that meets this goal.

This guide is designed to help you establish consistent, high-quality CERTA program instruction. Following the guide will help ensure your training efforts successfully meet the program objectives.

You are expected to make every effort to maintain high-quality instruction. To that end, by accepting your role as an authorized CERTA instructor, you agree to allow CERTA program representatives to randomly select and attend your training session for quality control purposes.

Training Compliance

If at any time during your tenure as a trainer you fail to comply with the policies and procedures set forth in this trainers guide or behave inappropriately in your role as a trainer, the CERTA program may take the following actions:

- Revoke your authorized status
- Revoke the certifications of all individuals you have trained

You, individuals you have certified and their employers will immediately be notified of these actions.

Certification Requirements

Participating in a CERTA training session does not guarantee participants become certified roofing torch applicators. There are two program requirements that must be satisfied before participants can be approved for certification:

1. A 70% or higher score on the exam
2. Passing evaluations on a peer-rated performance evaluation for the hands-on portion of the class

You also should deny certification of participants who behave in ways that are contradictory to program objectives. Examples would be: Unruly or disruptive behavior during the session or causing injury to oneself or another participant whether intentional or not.

Certification and Recertification Fees

Certification	Recertification
$230	$190

Fees are the responsibility of the trainees' employer. After completing a training session, an authorized trainer is responsible for entering the roster, via their trainer portal, within five business days of the class and processing the payment within five business days of receiving the invoice.

Post-class Procedures

There are a few tasks you will need to complete after each training session to ensure trainees get certified or maintain existing certifications. These tasks include:

- Completing a session roster, via your trainer portal, within five business days.
    - The CERTA administrator will verify participant names against NRCA's database. When the administrator is unable to determine whether a name on the roster already exists in the database, the trainer will be contacted to provide further information about the participant(s) in question. It is the trainer's responsibility to supply the requested information.
- Processing the payment, via your trainer portal, within five business days of receipt of the invoice.
    - After receiving an invoice from NRCA, a trainer may pay it via the CERTA Trainer Portal, or forward it to the contractor to pay via check or their NRCA account.

Roofing workers will not be certified until completed rosters are received and payments are made. This process could take a minimum of two weeks.

Training Session Roster Report

Trainers must enter a training session roster via their trainer portal and should refrain from using all caps.

Necessary information includes the following:

- First name, middle initial and last name
- Home mailing address
- Home telephone number
- Personal email address
- Current employer (company name)
- Final exam grade
- Hands-on performance pass/fail status
- Previous Employer

This information is used only to verify participants' identities in the NRCA database. The database includes many duplicate names and NRCA wants to be sure the correct individuals are being certified or recertified. The information is not used for any other purpose.

CERTA Identification Cards

CERTA ID cards will be uploaded to the trainer's portal as soon as the invoice has been paid. The trainer is responsible for distributing the ID cards to the participants. Under no circumstances may trainers issue certification cards indicating applicators are certified. Any cards not issued by NRCA will be considered fraudulent.

Participants do not need to wait for their CERTA cards to start work as certified applicators; however, they are only certified after:

- Successful completion of all training program requirements
- NRCA has received the session roster
- NRCA has received full payment of fees

Authorized trainers can contact the CERTA program administrator to determine whether all requirements have been fulfilled.

Recertification of Applicators

Torch applicator certification is valid for three years from the class date. Written notices will be mailed to the company approximately six months before their expiration dates, providing recertification requirements and procedures. It is the responsibility of the applicator to inform the CERTA administrator of contact information changes.

It is the responsibility of the CERTA trainers to make certain those who attend their applicator recertification classes have previously attended a class and have not let their applicator card expire.

Reauthorization of Trainers

Authorized trainer status is also valid for three years from the course date. Notices will be emailed approximately six months before authorized trainers' expira- tion dates, to the address on file. It is the responsibility of trainers to inform the CERTA administrator when contact informa- tion changes.

Conducting Final Exams

The exam provides an evaluation of participants' knowledge, an opportunity to revisit content from the class, and sheds light on how well trainers led the classes. Effective training is measured by outcomes. For instance, if most people answer a particular question incorrectly, a good trainer will question whether he or she addressed the point adequately.

Most participants will be able to complete the final exam in a written format at the end of the training session; however, some participants may have learning disabilities, comprehension or reading problems, language difficulties or test anxiety. Help participants by discussing these kinds of issues during the day and letting them know there are alternatives to taking the exam at the end of the class. Encourage people to approach you during breaks to discuss options, such as taking the exam orally at another time.

The CERTA exam consists of multiple-choice and true/false questions and is open book, meaning participants can use their notebooks, notes they have written and any information posted on the walls or boards. Explain they are to choose the best answer. Periodically, there may seem to be more than one correct answer, but there is only one best answer. They should know, but tell them cheating is an automatic failure.

Distribute the exams, and let them work. Do not allow discussion. If anyone asks a question, answer, but do not elaborate on anything that would give away the answer unless you realize you didn't address a topic in which case you should explain the point even if you end up providing the answer. As they finish, collect the exams and put them away so others can't see them.

Conducting an Oral Exam

It is recommended to schedule oral exams within 24 hours of the training session.

There are a few ways to do an oral exam. If it's for just one person, you can ask the questions, provide the options, and circle the answer he or she gives. If you have more than one person in the session, you should use a flip chart or white board to write an example of the questions' formats, whether multiple choice or true/false. Show them, if necessary that the top answer is A, then B, C and so on. Point out each letter symbol so they see the sequence and will be able to recognize it on their exam papers. Read each question, followed by the answer options. State the letters as you read the answers, specifying the order on the paper. Repeat the questions and answers as many times as necessary, but do not elaborate.

Grading

Written exams

The certification exams have 25 questions. Each question is worth four points. Total the number of incorrect answers, and multiply by four. Subtract this number from 100 to calculate the score. Report the scores on the session roster. Recertification exams contain 20 questions, so each one is worth five points.

Hands-on Exercises

The hands-on evaluation for this course is pass/fail by peer evaluation. Participants evaluate each other using the 60-item evaluation form. Trainers will collect the forms and report participants' scores as "P" or "F." Criteria for scoring are found in the teaching notes (Certification: page 24, Section C13; Recertification: page 15, Section C12).

Retesting

A trainee will not be certified if he or she fails either the written exam or the hands-on performance evaluation. It is expected that trainers will try to determine reasons for failures, and allow retesting with accommodations if prudent.

Copyright Permission

Authorized CERTA trainers are granted permission to copy any part of the CERTA program materials, including student manual, authorized trainers guide, teaching aids and administrative documents, for the sole purpose of performing their duties as authorized CERTA trainers. Commercial copy service companies may require written permission from the copyright holder to produce copies. A permission form signed by a CERTA program administrator can be downloaded from the trainer website. CERTA program materials may not be modified in any way.

Conclusion

If you have any questions about CERTA, feel free to contact the CERTA administrator.

NRCA
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Thank you for your efforts at helping to make torch-applied roofing work safer for everyone.

MATERIALS, SETUP AND SCHEDULES

Materials

Certification Classroom Training Materials
CERTA program Authorized Trainers Guide
Student manuals – one copy for each participant (reminder—20:1 ratio)
Be prepared to show the CERTA video, and have a monitor, screen or wall large enough for everyone to see it.
Flip chart, dry-erase board or chalkboard with markers or chalk
Propane roofing detail torch (105 btu or less) assembly, including: • Assembled torch • Hose and connectors • Pressure regulator • POL connector • Propane tank (10- or 20-pound size)
Roofing materials, including two small samples pieces of each of the following: • Wood fiberboard roof insulation • Polyisocyanurate insulation • DensDeck® gypsum board • Wood fiber cant strip • SBS polymer-modified bitumen membrane • APP polymer-modified bitumen membrane • Heavy glass base sheet • Type IV glass ply sheet • Self-adhering, smooth-surfaced polymer-modified bitumen base sheet
Optional Classroom Materials
1-inch three-ring binder for each student manual
Name tent card or nametag for each attendee

Recertification Classroom Training Materials
CERTA program Authorized Trainers Guide
Student manual photocopy for each participant
Flip chart, dry-erase board or chalkboard with markers or chalk
Optional Classroom Training Materials
1-inch three-ring binder for each student manual
Name tent card or nametag for each participant

Hands-on Training Mockup Materials—Certification and Recertification		
Quantity	**Unit**	**Materials**
192	Sq. ft.	1/4-inch fiberglass mat-faced gypsum core panel
3	sheets	4-foot by 8-foot by ½-inch CDX plywood
15	Each	2 x 4 dimensional lumber, 45-inch length
6	Each	2 x 4 dimensional lumber, 8-foot length
2	Each	2- by 12- or 14-inch construction-grade dimensional lumber, 12-foot length
150	Each	11/4-inch general-purpose screws
100	Each	16-penny nails
50	Each	3/4-inch tin-capped roofing nails
2	Each	9-inch metal pie tins, large coffee cans or galvanized tall cone flashings
2	Each	4-inch diameter steel pipe, 10- or 12-inch length
2	Each	½-inch plywood circles cut to 4-inch O.D. pipe size
2	Each	12-inch wood screws

Hands-on Training Materials		
Quantity	**Unit**	**Roofing Materials, per 20 participants**
1	Roll	Heavy fiberglass base sheet (#75-type)
1	Roll	Self-adhering polymer-modified base sheet
9	Rolls	APP polymer-modified bitumen membrane—smooth or granulated
8	Each	Wood fiber cant strips—3-foot lengths (optional)
1	Box	Arrow T-50 staples for staple gun (or equivalent)
10	Each	Hooked blades for roofing knives
1	Bottle	Liquid soap (for leak detection)

Hands-on Training Roofing Equipment		
Quantity	**Unit**	**Roofing Equipment per 20 Participants**
4	Each	20-pound vapor liquid petroleum gas cylinders
4	Each	Pressure regulators
4	Each	Pressure gauges
4	Each	25-foot UL-listed hoses
4	Sets	Swivel-type connectors for torch assemblies
2	Each	Propane roofing torches—detail application size not to exceed 105K Btu
2	Each	Propane roofing torches—field application size
4	Each	Spark-type igniters
2	Each	Adjustable wrenches
1	Each	Flat-blade screwdriver (for changing knife blades)
4	Each	Utility-type roofing knives
1	Each	Arrow T-50 staple gun (or equivalent)
4	Each	Large round-nosed trowles
2	Each	4A60BC fire extinguishers, fully charged, with updated inspection tags and intact plastic seals
1	Each	Comprehensive first-aid kit
1	Each	Clean plastic 5-gallon pail (for water)
1	Each	Small plastic squirt bottle
5 – 20	Each	ANSI ZX-97 goggles (eye protection)
5 – 20	Pair	Leather-palmed heavy work gloves (hand protection)

Setup

Classroom

Participants' abilities to learn are somewhat tied to their physical comfort. Discomfort is a distraction and will take away from a trainer's ability to reach his or her objectives. To that end, make every effort to minimize environmental distractions.

Provide writing surfaces and comfortable chairs. Make sure to have a flip chart, dry-erase board or a chalkboard, as well as markers or chalk. A television monitor or projector screen should be large enough for everyone to be able to see details in the video. The room should be well-lit, relatively quiet, free from distractions and kept at a moderately comfortable temperature. Washrooms should be accessible.

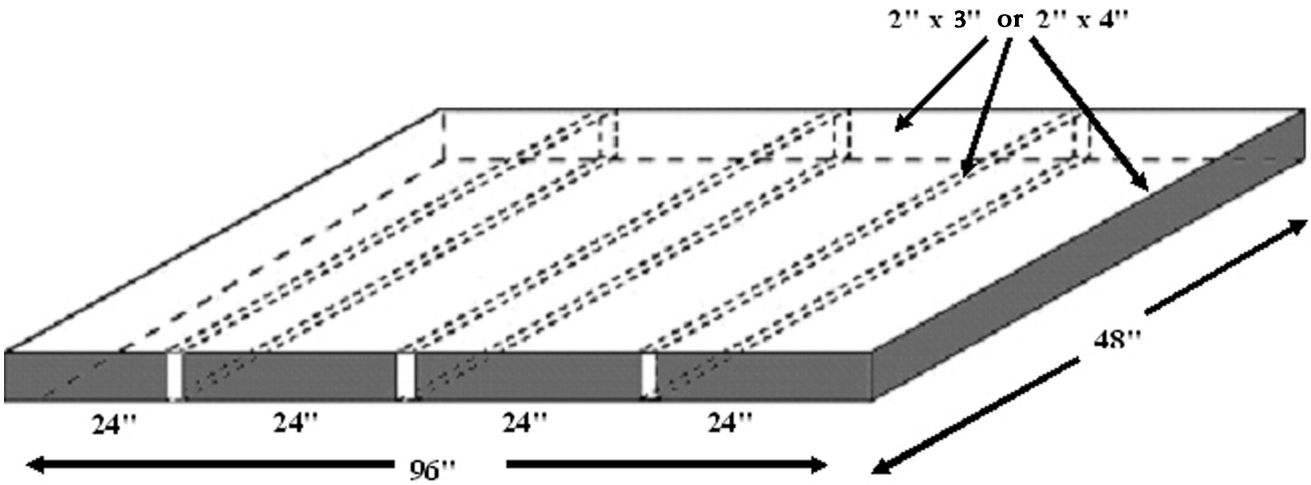
Hands-on Area

When setting up the hands-on activity, make sure the space is large and open enough to accommodate mockups, propane and lit torches. Most important, it must be big enough for all class participants to engage in torching activities and be able to see and maintain safe distance from one another and lit torches.

Mockup Design, Construction and Setup

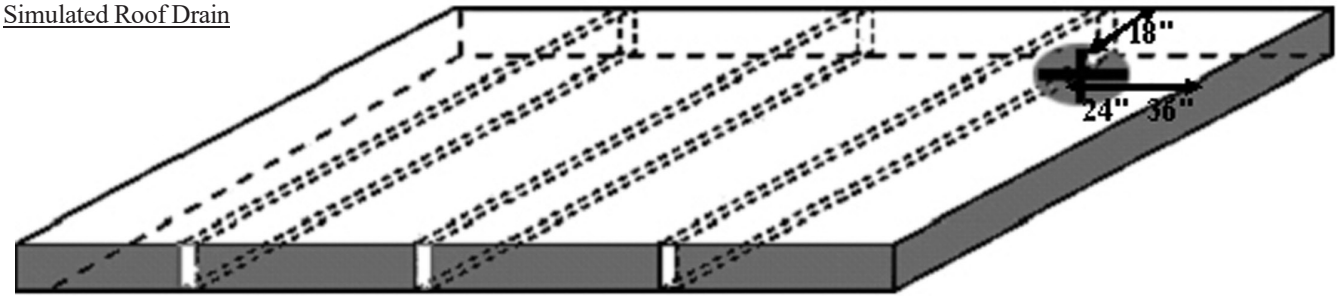
The drawings below represent mockups to construct before conducting the hands-on training portion of this program.

Basic Flat Deck Design



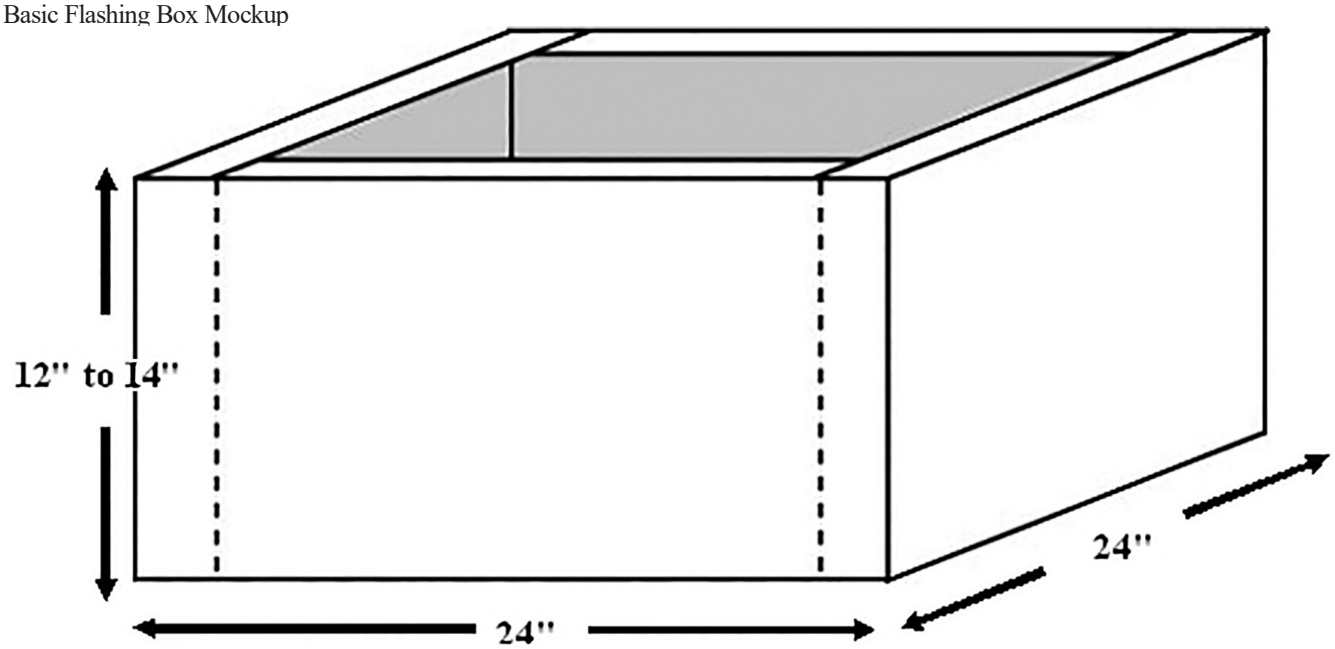
Construct a basic flat deck using 2 x 3 or 2 x 4 dimensional lumber secured with 16-penny nails as shown above. Install one layer ½-inch minimum CDX plywood to deck over the 2 x 4 frame, secured 8 inches on center with 11/4-inch general purpose screws. Install two layers of 1/4-inch fiberglass mat-faced gypsum core panel secured with 3/4-inch tin capped nails over the plywood. You will need to construct three basic flat deck mockups to conduct the hands-on training exercise.

Simulated Roof Drain

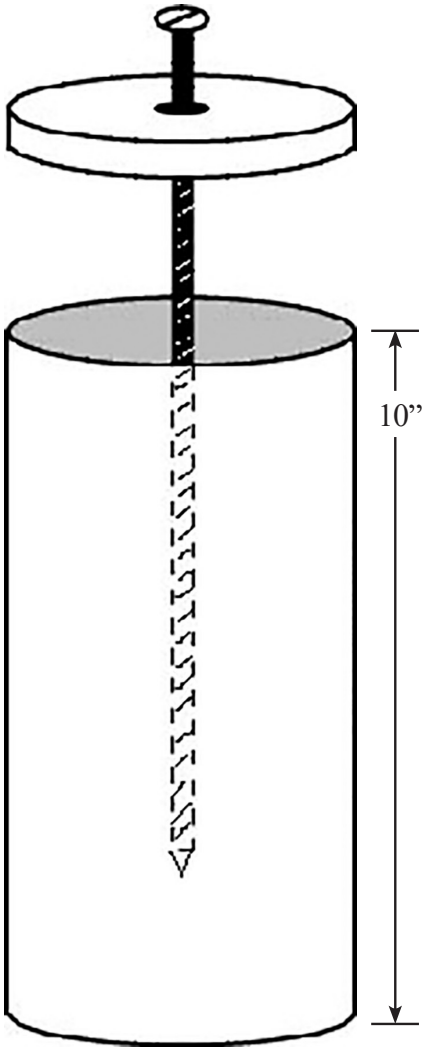


Cut a hole 18 inches from one side and 18 to 24 inches from one end in two of the three basic flat deck mockups. Use a 9-inch metal pie tin, large coffee can or an inverted galvanized steel “tall cone” flashing cut to height to simulate a roof drain opening. Secure the simulated roof drain in the hole.

Basic Flashing Box Mockup



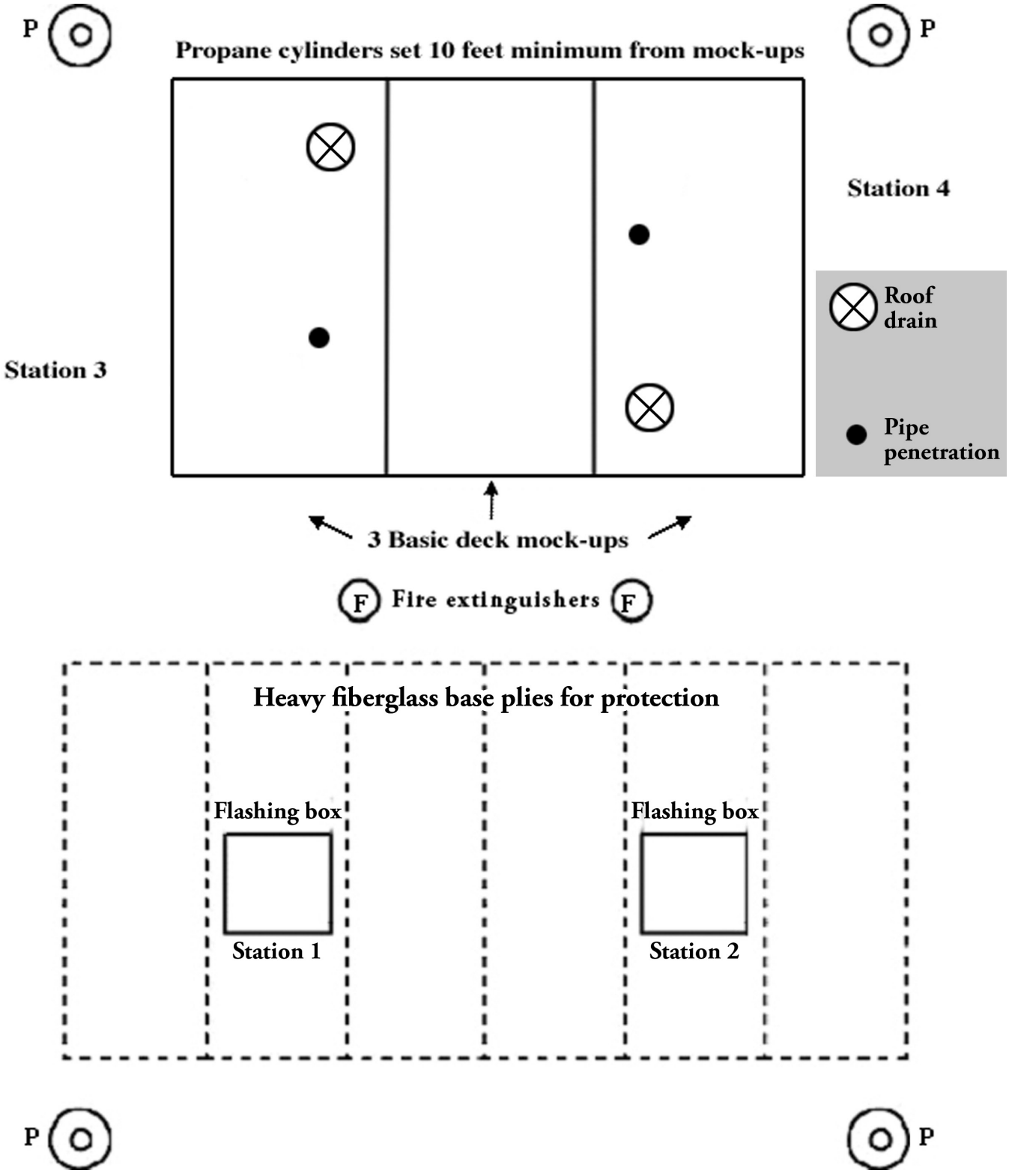
Construct a basic flashing box mockup using four pieces of 2- by 12-inch or 2- by 14-inch dimensional lumber nailed together using 16-penny nails. Add new cant strips for each training session.



Basic Pipe Penetration Mockup

Construct a basic pipe penetration mockup using a minimum 10-inch length of 3- or 4-inch pipe, a circular plywood disk cut to size of the outer pipe diameter and a screw 2 inches longer than the pipe length. Drill a hole near the center of the plywood disk to accept the screw. Secure the basic pipe penetration mockup at the opposite end of the basic deck mockup approximately 18 inches from one side and 24 inches from the end. The basic pipe mockup can easily be removed for storage.

Mockup Station Layout Plan



Lay the three deck mockups side by side with the two drain openings at opposite ends. Cover the entire deck mockup layout with a heavy fiberglass base ply sheet stapled into place. Lay fiberglass base ply ground protection for stations 1 and 2 at the flashing box areas. Set flashing boxes approximately 8 to 10 feet apart. Install cant strips around flashing boxes. Cover flashing boxes and cant strips with heavy fiberglass base ply sheets stapled securely in place. Set two 20-pound fire extinguishers between the work stations. Set a 20-pound propane tank a minimum 10 feet away from each workstation.

Schedules

Note: Breaks and lunch are not included in these schedules, but they are essential. Monitor the needs of your group, and give breaks accordingly.

Certification Schedule	
Event	**Time**
Program Introduction	35 minutes
Section 1: General Requirements	30 minutes
Section 2: Pre-job Planning and Preparation	30 minutes
Section 3: Propane Tool and Equipment Safety	45 minutes
Section 4: Application Safety	90 minutes
Section 5: Post-job Requirements and Duties	30 minutes
Hands-on Training	180 minutes (3 hours)
Final Exam and Review	40 minutes
Total	480 minutes (8 hours)

Recertification Schedule	
Event	**Time**
Program Introduction	30 minutes
Section 1: Safety Practices for Torch-applied Roof System Application	30 minutes
Section 2: Hazard Identification	60 minutes
Hands-on Training	120 minutes (2 hours)
Final Exam and Review	30 minutes
Total	270 minutes (4.5 hours)

The hands-on exercises are three hours and two hours, respectively, for the certification and recertification classes. Detailed schedules can be found in the Certification and Recertification Teaching Notes.

TRAINING BEST PRACTICES

Preparation

Effective facilitation depends on preparation, which is perhaps the single most important responsibility of your job as a trainer. Preparation time includes practicing your presentation. Study these course materials, and review all parts of the teaching notes and student manual. Practice presenting some of the topics in front of your family or co-workers, and ask for feedback. Good facilitation skills are acquired over time and do not happen naturally for most people.

The hands-on portion of this program also requires extensive preparation. Mockups should be constructed and base plies installed. Roof membranes should be pre-cut and placed next to each work station. You want participants to spend their time practicing torching skills, not cutting and fastening skills.

Adult Learning

Helping adults acquire new skills and knowledge can be exhilarating and challenging. It takes patience, flexibility, creativity and a strong conviction that what you are doing matters. The goal of training is to affect behavior, not just transmit information.

Training should be learner-centered and performance-based. Research suggests skill improvement takes place when participants are involved in practical, hands-on exercises that are realistic and challenging. Ideally, it's fun, too! Here is a summary of some things known about adult learners:

- Results—Worker training should be a means to an end. Let them know what's in it for them!
- Real-life application—Training should solve real-life problems rather than being entirely academic.
- Action—Adults are accustomed to participation, so create situations that welcome their contributions.
- Experience—Workers bring considerable experience into any new situation. Give them the opportunity to contribute.
- Self-esteem—Adults have a need to maintain their self-esteem; do not embarrass them.
- Social interaction—Adults learn best by interacting with instructors and other participants in classes.

Your Role as Facilitator

As trainers, it's ideal to think in terms of being facilitators. Facilitators, by definition, facilitate. Primarily, this means encouraging interactivity. The goal is to provide an environment where interactions stimulate participants to acquire new skills, knowledge and attitudes to achieve the course objectives.

Some ways to establish a learning environment are the following:

- Explain outcomes and how they can best be achieved by working together.
- Encourage questions, and give participants permission to answer each other's questions.
- Demonstrate an open and nonjudgmental attitude.

Training Methods

This section provides guidelines and examples for using various training methods in the classroom portion of any training experience.

Interactive lectures

Lectures are not typically the best method for training because, statistically, people don't remember as much as when they are involved in discussion and activity. However, there are times when a lecture format is OK.

- Lectures are a contrast to other training techniques.
- They are an efficient way to present content and can be effective if they are followed by activities that reinforce the information.
- They allow some participants to ask questions and share experiences with the whole group.

Process: Make lectures interesting:

- Personalize content with stories.
- Repeat core messages in different ways.
- Encourage questions.
- Ask participants to share their experiences related to the topic.

Small groups

Small group work builds camaraderie among participants and enables them to develop a shared understanding of new material. It also gives an opportunity to talk for those who are reluctant to speak up in the large group.

Groups should be limited to five or fewer. Groups can be formed by various means, but the more direction you provide the better.

Process: Tell participants the purpose of the group work and how much time they have to complete it. If necessary, specify that groups appoint spokespersons, scribes or other roles. Circulate among the groups to ensure everyone understands the goals and they are staying on task.

Pairs work

Participants pair off to discuss a topic or do a role play with one other person. This allows one-on-one communication and forces the quietest group members to be involved.

Process: After pairs have discussed a question or complete an assignment, ask a few pairs to share their thoughts or experiences with the whole group. Be careful because time can quickly pass when too many pairs want to share.

Games

Instructional games provide an appealing learning environment. This is a motivating approach that requires learners to demonstrate mastery of content. The CERTA program notes provide ideas for team and individual games.

Process: Games always have rules. Be absolutely clear about game rules before trying to explain them to a group because the whole experience will fall apart if you are unable to explain well what participants are supposed to do or if you cannot answer questions. Try to anticipate “what if” questions and have prepared answers. Small prizes can be fun but are not necessary.

Questioning

A core skill instructors can use to increase participation is questioning. Questions promote thinking and dialogue among group members. They also keep the trainer from doing too much talking!

One of the keys to good questioning skills is being comfortable enough with silence to allow discussion to begin. Sometimes, it may take a while before anyone will say anything. It can feel awkward, and even a relatively short period of time can feel like an eternity; however, it’s unusual for silence to last too long before someone in the class speaks, so give it time. If no one speaks up, rephrase the question or back up and ask a simpler question..

Characteristics of good questions

- Concise
- Contains only one idea
- Thought provoking
- Addresses important and relevant material
- Uses language common to the learners
- Open-ended, requiring more than a yes or no answer
- Relies on reasoning more than memory
- Challenging but answerable

Four types of questions

- Direct questions—to a specific learner

Instructor: Joe, you mentioned earlier you have experience with a roofing torch. Do you know how hot the open flame of a propane torch can be?

- Overhead questions—to learners in general; anyone can answer

  Instructor: The open flame of a roofing torch is extremely hot; does anyone know how hot this flame can be?

- Relay questions—a learner asks the instructor, who then directs it to the class as a whole or even one specific person in the class

  Learner to instructor: The torch flame must be pretty hot to make the bitumen flow like that. How hot does it really get?

  Instructor: That's a great question, Jim. Joe mentioned he has experience with roofing torches. Joe, do you know the answer?

- Reverse questions—a learner asks the instructor a question and the instructor returns it to the same learner

  Learner: I've used a roofing torch a lot, and I've seen it do a lot of damage. I was just wondering if you know how hot the flame really is.

  Instructor: Good question; what would you guess?

Best practices for Q&A

- When someone asks a question, take a step toward them and seem eager for the question.
- Check to be sure everyone heard the question. If they didn't, look to the asker to repeat it before providing an answer.
- Answer briefly, and stick to what was asked.
- Tie answers to the key points of lessons whenever possible.
- If you don't know the answer, and no one else in the room does, either, admit it. Find the answer, and get back to the student.
- If someone asks a question to be provoking, answer politely and directly. Do not become defensive or argumentative.
- Create a "parking lot" to write questions that don't necessarily fit within the current conversation. "Park" the question, and revisit it later or during a break.
- If someone asks a question addressing an issue that will be addressed later, ask whether it it's satisfactory to not answer the question at the moment.

Timing

One of the most essential elements of a smoothly running workshop is an almost fanatical attention to time. The goal is to balance group participation and the necessity to address all the required content. Time guidelines are just that—guidelines—but if one topic takes longer than it's allotted, something else will have to be cut back.

Some pointers for time management are the following:

- Start on time. At the beginning of the day, after lunch and after breaks, honor those who are on time by beginning instruction. If you decided to wait a few minutes, explain why and how long you will be waiting.
- Check the schedule regularly.
- Deal with digressions firmly but diplomatically.
- Stick to time limits for activities.
- During small group discussions, circulate to make sure groups are staying on task.
- Use a parking lot. Have a flip chart page that you label "Parking Lot." When questions or discussions arise that aren't relevant at the moment, write them on the parking lot. This respects the person who brought it up and allows you to stay on topic. Revisit the parking lot when you have time.

Language and Literacy Issues

Literacy issues often arise when training roofing workers. A program's objectives may be difficult to achieve if participants are not able to read or write well or if they cannot understand the material for any number of reasons. Often, people do not want to reveal to a group that they can't read, so trainers need to rely on observation to discern whether anyone is struggling with the material. The CERTA program has a written exam and relies on participants filling out peer evaluation forms. If it seems as though someone cannot read, it would be a good idea to talk to him or her during a break. There are ways to work around this, such as giving an oral exam, but never ignore it and certify a trainee who didn't successfully complete all the program elements.

Have Fun!

Training can be fun for you and participants. Be creative and try new activities to engage people in learning; enjoyable training experiences also are usually the most effective training experiences.

Appendix - Hot Work Permit Procedures

The purpose of this appendix is to provide non-mandatory guidance on best-practice hot work permit procedures when engaging in CERTA-compliant propane torching. The information below is based on the National Fire Protection Association's 2024 standard: NFPA 51B: Standard for Fire Prevention During Welding, Cutting, and Other Hot Work.

Terms and Definitions

Hot Work – Work involving burning, welding or a similar operation that is capable of initiating fires or explosions. Examples include, but are not limited to welding, cutting, grinding, soldering, heat treating, hot riveting, **torch-applied roofing**, abrasive blasting, and powder-driven fasteners.

Hot Work Permit – A permit issued by the Permit Authorizing Individual, PAI, which shall not be valid for more than **24 hours**. Information on the permit should include work location, type of hot work, the work to be done, the operator, duration, equipment, and controls to ensure safety.

Authority Having Jurisdiction (AHJ) – An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, and installation, or a procedure.

Permit Authorizing Individual (PAI) – An individual designated by management to authorize hot work.

Fire Department (AHJ) Permit – A document issued by the AHJ to a qualified person authorizing that individual to carry out the activity of hot work.

Explanation

Hot work permits must be completed daily by roofing contractors and overseen by Permit Authorizing Individuals (PAI), who could be building owners, safety directors or managers appointed by owners or Authorities Having Jurisdiction (AHJ). Permits, valid for no more than 24 hours, should detail work locations, types of hot work, operators, duration, equipment, and safety controls. Additionally, a CERTA-compliant fire watch is a minimum of two hours, extending beyond NFPA's one-hour requirement.

Hot work permits must be completed properly, approved by a building owner's PAI and kept on site for the duration of the project. A PAI's communication with a roofing contractor throughout a project is vital to maintaining safety standards.

To ensure comprehensive safety measures, individuals conducting fire watches must finalize Hot Work Permits once their duties are complete.

Resource

The following hot work permit is customized for roofing work, which adheres to CERTA safety practices. To download a fillable PDF, go to https://www.nrca.net/workforce-development/training/certa/trainer-resources

HOT WORK PERMIT

Seek an alternative/safer method if possible!

Before initiating hot work, ensure precautions are in place as required by NRCA CERTA Program. Make sure an appropriate fire extinguisher is readily available.

This Hot Work Permit is required for any operation involving open flame or producing heat and/or sparks. This work includes, but is not limited to, welding, brazing, cutting, grinding, soldering, thawing pipe, torch-applied roofing, or chemical welding.

Date	Hot work by ❑ employee ❑ contractor
Location/Building and floor _____	Name (print) and signature of person doing hot work
Work to be done _____	I verify that the above location has been examined, the precautions marked on the checklist below have been taken, and permission is granted for this work.
Time started _____ Time completed _____	Name (print) and signature of permit-authorizing individual (PAI)

❑ Available sprinklers, hose streams, and extinguishers are in service and operable.

❑ Hot work equipment is in good working condition in accordance with manufacturer's specifications.

❑ Special permission obtained to conduct hot work on metal vessels or piping lined with rubber or plastic.

Requirements within 35 ft (11 m) of hot work

❑ Flammable liquid, dust, lint, and oily deposits removed.
❑ Explosive atmosphere in area eliminated.
❑ Floors swept clean and trash removed.
❑ Combustible floors wet down or covered with damp sand or fire-resistive/noncombustible materials or equivalent.
❑ Personnel protected from electrical shock when floors are wet.
❑ Other combustible storage material removed or covered with listed or approved materials (welding pads, blankets, or curtains; fire-resistive tarpaulins), metal shields, or noncombustible materials.
❑ All wall and floor openings covered.
❑ Ducts and conveyors that might carry sparks to distant combustible material covered, protected, or shut down.

Requirements for hot work on walls, ceilings, or roofs

❑ Construction is noncombustible and without combustible coverings or insulation.
❑ Combustible material on other side of walls, ceilings, or roofs is moved away.

Requirements for hot work on enclosed equipment

❑ Enclosed equipment is cleaned of all combustibles.
❑ Containers are purged of flammable liquid/vapor.
❑ Pressurized vessels, piping, and equipment removed from service, isolated, and vented.

Requirements for hot work fire watch and fire monitoring

❑ Fire watch is provided during and for a minimum of 2 hours after hot work, including any break activity.
❑ Fire watch is provided with suitable extinguishers and, where practical, a charged small hose.
❑ Fire watch is trained in use of equipment and in sounding alarm.
❑ Fire watch can be required in adjoining areas, above and below.
❑ Yes ❑ No Per the PAI/fire watch, monitoring of hot work area has been extended beyond 2 hour.

Seperate document