



Recertification Student Manual



Torch-applied Roof System Safety
CERTA Program



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CERTA Recertification Program Torch-applied Roof System Safety

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PREFACE

CERTA Program

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Acknowledgement

NRCA and MRCA thank the dedicated roofing industry professionals who volunteer to serve on the joint CERTA Task Force to oversee and maintain the CERTA program.

Foreword

Congratulations! You have played a major roll in the success of the CERTA program. Since the CERTA program was introduced in 2004, the frequency and seriousness of roof fires have been greatly reduced. Thank you for your commitment to working safely in the roofing industry.

The CERTA program has changed the way workers use torches. Roofing workers today are using torches more carefully than in the past. The decisions you make and the actions you take while using a roofing torch contribute to the safe and successful application of torch-applied roof systems. You may not realize it, but your commitment to safe torching practices has improved the professional image of the entire roofing industry.

Reading this manual means you were certified as a roofing torch applicator and you intend to continue installing and repairing roof systems using roofing torches. Your certification was good for three years, and now it is time for you to renew your certified status.

Safety is the cornerstone of success for any roof system installation. The CERTA recertification program is designed to support your continuing efforts to work more safely and improve the roofing industry.

Program Description

It is important to remember that the CERTA program is first and foremost a roofing industry safety program.

The CERTA program addresses the concerns of building owners, roofing contractors, the insurance industry, fire and code authorities, roofing material manufacturers, equipment manufacturers and fuel suppliers.

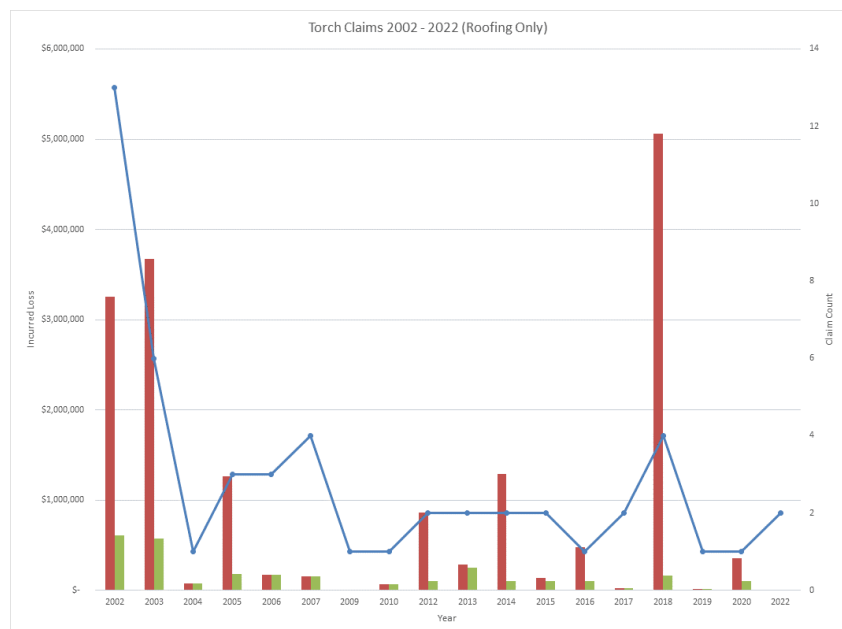
Upon successful completion of this training program, you are a CERTA applicator. You will receive a new identification card, and your name will remain in a secure database of certified applicators. Your certification is valid for three years, but it may be rescinded if you are observed performing unsafe work practices. Certain recertification conditions and additional training and testing are required at the end of each three-year period to maintain certification.



Program Success

Roofing torch-related fire incidents have decreased significantly since 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. Losses will still occur from time to time, but they should be outliers rather than the norm. Since 2017, FM Global recommends CERTA applicators on FM-insured buildings.



Purpose

The purpose of the CERTA program is to provide roofing professionals with the necessary safety training to enhance professionalism and reduce personal injuries and property losses caused by the use of roofing torches.

INTRODUCTION

Program History

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 to train roofing workers in the safe application of torch-applied roof systems. This program was named the CERTA Program.

In 2003, insurance industry representatives approached NRCA to address concerns about increasing incidents and losses occurring during roofing workers' torching activities. NRCA recognizes torching activities are a major part of the roofing industry and roofing workers traditionally have been trained in torch use using on-the-job techniques. On-the-job training methods typically focus on application skills without adequately addressing safety concerns; thus, the need became apparent for focused safety training in torching activities. NRCA has arranged with MRCA to adopt and revise the CERTA program to meet this industry need.

The CERTA program provides the latest safety practices and new industry requirements for torching activities. CERTA delivers these requirements through a certification program comprising authorized trainers delivering effective behavior-based training to roofing workers. There is no comparable safety training program available in the roofing industry.

The CERTA recertification program is designed to provide safety training for roofing professionals at all levels. The standards and safety practices taught in this certification program should provide individual companies with the information and procedures they need to implement or expand their safety programs.

Key Learning Outcomes

Upon completing your CERTA recertification training, you will be able to:

- Apply roofing industry safety practices for installing torch-applied roof systems in given situations
- Identify common fire hazards encountered during roofing applications
- Prescribe application methods that reduce fire risks during roofing applications
- Demonstrate the safe use of a roofing torch

In addition to accomplishing these objectives, this program provides information and reference resources that complement various topics addressed in your training. This information can be applied to all roofing work and used to enhance your company's safety program.



CERTA Trivia: Hit or Myth?

Statement 1: When I follow the safety practices for installing torch-applied roof systems, the quality of my workmanship suffers.

☐ True ☐ False

Why or why not?

Statement 2: When I install torch-applied roof systems, I am more aware of potential fire hazards than I was before completing my CERTA training.

☐ True ☐ False

Why or why not?

Statement 3: I don't have to worry about fire hazards when using a roofing torch to dry an area of a roof.

☐ True ☐ False

Why or why not?

Statement 4: Using the torch-and-flop method at flashing details and for installing field plies at edges and walls is an effective way to reduce risks of fire.

☐ True ☐ False

Why or why not?

Statement 5: I am a better roofing worker because of what I have learned in the CERTA program.

☐ True ☐ False

Why or why not?

Section 1 SAFETY PRACTICES FOR TORCH-APPLIED ROOF SYSTEM APPLICATION

Roofing Industry Safety Practices

The roofing industry safety practices for torch-applied roof system application are the heart of the CERTA program. Your following these safety practices is the primary reason the program has been a success. The safety practices are your habit, and you have advanced your career, and professionalism, as a roofing worker.

Following is a list of safety practices for torch-applied roof systems compiled in collaboration with the insurance industry. These safety practices have been incorporated into the CERTA training program. Reviewing this list now will help refresh your understanding of the safety practices and reinforce your good habits when using a roofing torch.

CERTA Safety Practices for Roofing Torch Use

1. CHECKLIST

- 1.1 Complete a daily checklist (job hazard analysis) for all torching jobs.

2. PRE-JOB PLANNING

- 2.1. The roofing contractor responsible for a project that involves the use of roofing torches must develop a written fire prevention plan identifying hazards and controls that the contractor plans to implement to reduce the risk of fire. Part of the plan must include:
 - 2.1.1 The job foreman or supervisor shall review daily with the building owner conditions that could present hazards during torching and address them.
 - 2.1.2 The contractor must identify hazards and establish controls to reduce or eliminate possible fire traps and hidden hazards; see Section 3, Application, paragraphs 3.1 – 3.2.4.2.2.
- 2.2 Have a minimum of two 4A60BC fire extinguishers available within 10 feet of each lit torch being used to heat membrane.
 - 2.2.1 Train all personnel on the roof on how to use a fire extinguisher.
- 2.3 Inspect penetrations, such as exhaust vents, inside and outside. Lint, grease or other substances, if present, shall be cleaned prior to torching work.
- 2.4 Have a cell phone available or other means of immediately communicating with 911 or another emergency responder.
- 2.5 Comply with state and local fire and building ordinances where applicable.

3. APPLICATION

- 3.1 Field-of-the-roof installation
 - 3.1.1 Over concrete, steel or gypsum roof decks:
 - 3.1.1.1 The CERTA program recommends compliance with the recommendations contained in the most current edition of The NRCA Roofing Manual: Membrane Roof Systems. (See CERTA Authorized Trainers Guide Appendix for specific citations.)
 - 3.1.2 Over plywood, wood plank, oriented strand board or wood fiberboard roof decks or substrates:
 - 3.1.2.1 For compliance with CERTA Torching Principles, in no case may torch-applied membranes be applied by torching directly to the above-listed decks, including where a gypsum cover board has been installed.
 - 3.1.2.2 In conjunction with the recommendation in the most current edition of The NRCA Roofing Manual: Membrane Roof Systems, the CERTA program does not recommend torching of modified bitumen products over plywood, wood plank, oriented strand board or wood fiber roof decks. Roofing contractors are advised to urge designers to consider alternative application specifications when polymer-modified bitumen roof membranes are specified over the above-listed decks.

3.1.2.3 On a project where a building owner or designer is unwilling to accept, or cannot change to, an alternative application specification, the CERTA program suggests the following to minimize the fire risk prior to application of polymer-modified bitumen field membranes:

3.1.2.3.1 Installation of a minimum 2-inch-thick stone wool insulation or min. ½ Portland cement or min. ½ inch gypsum deck board (e.g., DensDeck or Securock) fastened to the deck, followed by

3.1.2.3.2 Installation of an air-impermeable backer layer consisting of one of the following two options:

3.1.2.3.2.1 Option 1: Installation of a minimum of one layer of self-adhering, smooth-surfaced polymer-modified bitumen sheet.

3.1.2.3.2.2 Option 2: Installation of a layer of fiberglass ply sheet, fiberglass base sheet or polymer-modified bitumen base sheet mechanically fastened to the substrate and

3.1.2.3.2.1.1 Installation of a minimum of one additional layer of a fiberglass ply sheet adhered to the underlying layer in a solid mopping of hot asphalt, OR

3.1.2.3.2.1.2 Installation of a polymer-modified bitumen base sheet adhered to the underlying layer in a solid mopping of hot asphalt.

3.1.2.4 Roofing contractors should note that manufacturers' instructions or project specifications that do not meet the recommendations in 3.1.2.2 or 3.1.2.3 over decks specified in 3.1.2. are not addressed by or compliant with CERTA Torching Principles for fire-risk minimization.

3.2 Flashing installation: The CERTA program recommends polymer-modified bitumen flashings shall be installed using one of the following flashing system application methods:

3.2.1 Torch-and-flop indirect torching

3.2.2 Cold-applied adhesives

3.2.3 Mop-applied with hot bitumen

3.2.4 Direct torching using a single-burner, low-output (105k Btu or less) "detail" torch as follows:

3.2.4.1 Over plywood, wood plank, oriented strand board or wood fiberboard substrates or deck, an air-impermeable backer layer with sealed laps installed over the flashing and deck substrate shall be incorporated into the flashing assembly prior to the application of the torch-applied polymer-modified bitumen sheet finish surface. Acceptable adhered backer layers include ONE of the following:

3.2.4.1.1 Installation of:

3.2.4.1.1.1 A layer of fiberglass ply sheet, fiberglass base sheet or polymer-modified bitumen base sheet mechanically fastened to the substrate AND

3.2.4.1.2.1 An additional layer of a minimum of one-layer fiberglass ply sheet or polymer-modified bitumen base sheet adhered to the underlying layer in a solid mopping of hot asphalt.

3.2.4.1.2 Installation of a minimum of one layer of self-adhering, smooth-surfaced polymer-modified bitumen sheet.

3.2.4.2 Over concrete, masonry, steel, concrete block or gypsum substrates, an adhered backer layer with sealed laps installed over the flashing substrate shall be made part of the membrane flashing assembly prior to the application of the torch-applied polymer-modified bitumen sheet finish surface. Acceptable adhered backer plies include one of the following:

3.2.4.2.1 Installation of a minimum of one-layer of fiberglass ply sheet, fiberglass base sheet or polymer-modified bitumen base sheet adhered in a solid mopping of hot asphalt.

3.2.4.2.2 Installation of a minimum of one layer of self-adhering, smooth-surfaced polymer-modified bitumen sheet.

Note: If the membrane flashing substrate cannot be specifically identified as concrete, masonry, steel, concrete block or gypsum, direct torching with a detail torch is permitted if 3.2.4.1 is used.

4. TORCHING SAFETY

4.1 Only CERTA certified torch applicators shall operate torches when an open flame will contact any part of a roof.

4.1.1 Using an open flame for roof drying or de-icing shall be performed by CERTA certified torch applicators.

4.1.2 The use of an open flame torch solely to heat bitumen equipment valves (i.e., hot luggers, felt layers or kettles) or bitumen pipe assemblies is acceptable and may be performed by a noncertified applicator as long as an open flame does not contact the roof, flashings or any part of the roof assembly.

4.2 Never torch directly to any combustible material. Identify and protect materials that may burn when in contact with an open flame, such as, plywood, oriented strand board (OSB), wood, plank wood fiberboard and other combustible building components.

4.3 Never torch directly to an area where you cannot see the path of the open flame (including—but not limited to—flashings, corners, curbs, voids, expansion joints and small roof penetrations). Use alternative application methods, such as torch-and-flop indirect torching, cold-applied adhesives or mop-applied with hot bitumen, in these areas.

4.4 A lit torch shall only be placed on the roof surface, with the flame positioned in a safety direction, using a functional torch stand.

4.5 A lit torch shall never be left unattended.

5. FIRE WATCH REQUIREMENTS

5.1 There must be an ongoing job site fire watch conducted by a properly trained and dedicated individual. This includes:

5.1.1 During the entirety of lunch and other breaks when torching activity has been suspended

5.1.2 After all roofing torches have been shut down at the end of the workday.

5.1.2.1 A minimum tow-hour fire watch, as described in the CERTA training program, shall be conducted and must include checking the roof's underside (whenever possible), as well as the roof surface, curbs and other flashings for smoldering or elevated temperatures.

¹ *combustible*, i.e., plywood, OSB, wood plank or wood fiberboard

² *noncombustible*, i.e., concrete, masonry, concrete block or gypsum

Safety Practices Review

Read each of the following statements. Write in the line next to each statement the number of the safety practice from the preceding list that best applies to the statement. Your instructor will review and discuss each statement and your answers.

- A. ____ I am installing a new roof using a roofing torch. The deck is made of plywood. I know I need to install a thermal barrier first.
- B. ____ I need to torch a small piece of flashing under a door threshold, but I cannot see what is under the door or siding. I should not use a torch. Instead, I will install the flashing using cold-applied adhesive.
- C. ____ Before we started working today, our foreman talked with the building owner. It is a good thing he did because the owner's warehouse guys stored some flammable solvent on a shelf against a wall right under where we were planning to torch today. That could have been a disaster!
- D. ____ We pulled an old exhaust fan off a curb so the new flashing material would fit under its flange. When we pulled off the fan, we found three old bird nests under the hood. They could have caught fire had we not found them.
- E. ____ Our superintendent stopped by the torching job this morning and posted a city burn permit on the door leading out to the roof.
- F. ____ A small fire started smoldering under an eave where a gutter ran into a chimney. It was easy to put out the fire with a fire extinguisher. There was no damage, and we only had to clean off the white powder. We called the fire department to verify it was out, and it was! I'm glad we knew how to use a fire extinguisher and we avoided a big fire!
- G. ____ The stand was broken off the torch my foreman gave me to use. I fixed the stand before relighting the torch.
- H. ____ My boss is able to get good insurance to do torching work, and I can get more work because I got certified in the CERTA program.
- I. ____ Before we started working today, our foreman walked over the section of the roof he was planning to do and filled out some important paperwork. I know it is important to go over this checklist every day because conditions can change from one day to the next.
- J. ____ I am installing flashings on a parapet wall. There is a wood nailer in the brick near the old wood deck. I know I need to cover this flashing area first with an approved backer ply.
- K. ____ My foreman told me to go down to the truck and bring up a box of tin-capped nails so we can nail the flashings. I will shut off my torch before I go down to the truck.
- L. ____ My foreman told the crew he programmed the telephone number of the local fire department into his cell phone in case there was an emergency.
- M. ____ I have to torch materials over a concrete wall. There is a louvered vent coming out of the wall where I have to work. I will cover the entire vent using a fire blanket to make sure no flames get into the opening.
- N. ____ I found an old, unused wood curb hidden under a metal counterflashing in an area where everything else was metal. I will address this hazard by removing the old wood curb before using a torch.
- O. ____ My company put me through special training to help identify hidden fires that sometimes smolder under a roof. I call these areas "hot spots." I stay on a roof at least two hours after we shut off the last torch. I watch for hot spots, smoke or other clues a fire might be smoldering.
- P. ____ I am working with a crew of six to install torch-applied flashings near the northwest corner of a roof. When we are working close together, we need two fire extinguishers present. But when I work alone on another area of the roof, I need two fire extinguishers just for my torch.
- Q. ____ I am installing torch-applied flashings around an air-conditioner curb. The curb is metal. I installed a backer ply (either hot-mopped or self-adhering) with sealed laps. I now can carefully install the flashing strips onto the curb using a small detail torch and the direct torching method.

Section

2

HAZARD IDENTIFICATION

Recognizing Hazardous Areas and Reducing Fire Risk

Many roof fires caused by roofing torches occur because common job-site hazards are not recognized in advance. You should always be on the lookout for hazards and know what to do to reduce fire risk while working near them. Be observant to reduce fire risk when using a roofing torch.

During your original CERTA training, you reviewed many common fire hazards. You also learned precautions to take to reduce the risk of fire. Look at each of the following pictures. Identify the fire risk in each picture, and write your answer on the lines. Then, write the safety precautions you would take if working near the hazard shown in each picture. Your instructor will review each picture with your class and discuss things you can do to reduce each fire hazard.



Example

1. Example: The hazard is that there is a lot of loose trash and debris in the area where torching is going on. I would clean up loose trash and debris. Tie down tarp covers. Use a garbage bag to pick up loose trash to keep it from blowing around.



2. _____



3. _____



4. _____



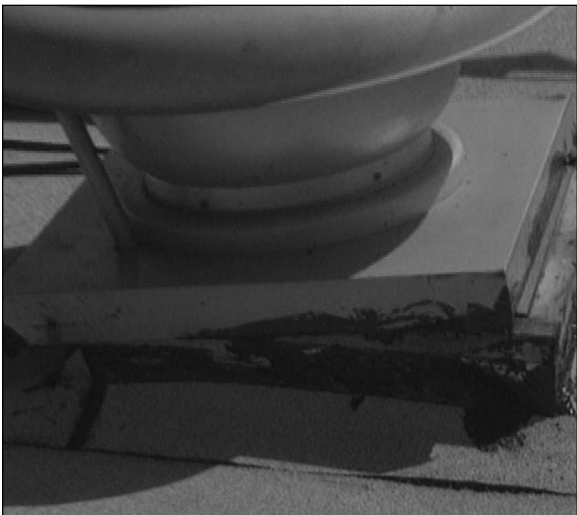
5. _____



6. _____



7. _____



8. _____



9. _____



10. _____



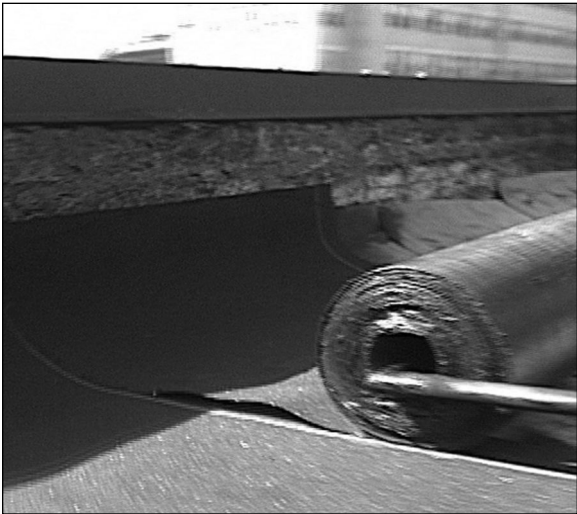
11. _____



12. _____



13. _____



14. _____



15. _____



16. _____



17. _____



18. _____



19. _____



20. _____

APPENDIX | REFERENCE MATERIALS

Related Industry Organizations

Compressed Gas Association

4221 Walney Road, Fifth Floor
Chantilly, VA 20151-2923
(703) 788-2700 Fax: (703) 961-1831
Email: cga@cganet.com
Web site: cganet.com

FM Approvals

1151 Boston-Providence Turnpike
Norwood, MA 02062
(781) 762-4300 Fax: (781) 762-9375
Web site: fmglobal.com

Midwest Roofing Contractors Association

2077 Embury Park Road
Dayton, OH 45414
Toll Free: (800) 497-6722
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Email: info@mrca.org
Web site: mrca.org

National Fire Protection Association

1 Batterymarch Park
Quincy, MA 02169-7471
(617) 770-3000 Fax: (617) 770-0700
Email: custserv@nfpa.org
Web site: nfpa.org

National Propane Gas Association

1150 17th St. NW, Suite 310
Washington, DC 20036-4623
(202) 466-7200 Fax: (202) 466-7205
Email: info@npga.org
Web site: npga.org

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(847) 299-9070 Fax: (847) 299-1183
Email: nrca@nrca.net
Web site: nrca.net

Occupational Safety and Health Administration

U.S. Department of Labor
200 Constitution Ave. NW
Washington, DC 20210
(800) 321-OSHA
Web site: osha.gov

UL

333 Pfingsten Road
Northbrook, IL 60062-2096
(847) 272-8800 Fax: (847) 272-8129
Email: northbrook@ul.us.com
Web site: ul.com



Certified Roofing Torch Applicator Training Program

Daily Inspection Checklist

Inspection Date:			
Project Name:			
Address:			
Roof Deck Type: _____ <input type="checkbox"/> underside exposed <input type="checkbox"/> underside concealed			
Fire Department Telephone Number:			
Police Department Telephone Number:			
Building Owner's Name:			
Building Owner's After-hours Telephone Number:			
Pre-job Inspection			
√	HAZARDS AND CONDITIONS	Actions Taken	Initials
General Conditions			
	Job-site housekeeping		
	Exposed roof edges		
	Equipment and hose organization		
	Low or poorly ventilated roof areas		
	Changed conditions since previous day (e.g., combustible or flammable materials stored by building owner)		
	Wind conditions		

Fire Safety		Specific codes discussed:	
	Local building codes and regulations		
Official's name:			
Date contacted:			
Official's telephone number:			
	Job-site no-smoking signs	Posted locations:	
Fire extinguishers			
	Type 4A60BC		
	Quantity		
	Inspection dates		
	Plastic seals		
	Pressure		
	Location relative to torching		
	Location relative to cylinders		
	Emergency telephone numbers posted		
Posted locations:			
	Combustible roof deck	Deck type:_____	
	Combustible materials below roof deck		
Locations:			
Combustible flashing substrates			
	Cant strips type:_____		
	Wood nailers		
	Flashing substrate type:_____		
Adjacent combustible building components			
	Door thresholds		
	Siding materials		
	Window sills		
	Other		

Concealed attic or crawl space areas					
	Access: _____ _____ _____				
	HVAC or utility service lines				
Rooftop mechanical equipment					
	Wall louvers				
	Air intakes				
	Exhaust vents				
	Lint or sawdust collectors				
	HVAC units				
	Air-filtering units				
	Water chillers				
	Condensing units				
	Other equipment				
Wall or flashing components					
	Counterflashings				
	Coping caps				
	Through-wall scuppers				
	Others				
Perimeter edges					
	Gravel stop				
	Gutter				
	Drip edge				
	Other				
In-progress Inspections					
Unattended torches					
Shut off					
Lit					
Under-deck inspections access locations (include concealed attic areas)		Inspection times: a.m.	Inspection times: p.m.		

Post-job Inspections and Tasks			
Fire Watch		Ongoing from ____:____ a.m./p.m. to ____:____ a.m./p.m.	
(include concealed attic areas)		Under-deck inspections access locations Inspection times	
Rooftop inspections		Inspection times	
	Open field of roof		
Rooftop mechanical equipment (list)			
Walls and flashing components (list)			
Perimeter edges (list)			
LP Gas Cylinder Storage			
	All cylinders stored	Location (ground or roof area):	
	Grouped together		
	Secured	Method used: _____	
	Cylinder valves tightly shut off		
Torching Equipment			
	Inspected for damage		
	All equipment stored	Location	
	Other		
	Other		

Torch Operator's Name: _____ Date: _____

Hands-on Performance Evaluation Form

Instructions for Evaluating Torch Operators

Observe the torch operator as he or she performs each step of the exercise. Circle the number you feel represents how well the operator performed on each step. Keep in mind that everyone uses a torch differently, so please only base your scores on the way each step is described.

Scoring: **1** **2** **3**
 Poor **Fair** **Excellent**

EVENT	STEP	SCORE		
1	Lighting a torch			
	wears proper PPE	1	2	3
	closes all valves and opens regulator	1	2	3
	points torch away from himself or herself and others	1	2	3
	slowly opens cylinder valve	1	2	3
	slowly opens pilot valve	1	2	3
	uses a spark lighter	1	2	3
	adjusts torch valve(s)	1	2	3
	tests torch operation using trigger	1	2	3
2	Flashing box stations 1 and 2: flashing torch and flop			
	wears proper PPE	1	2	3
	measures and pre-cuts flashing strips	1	2	3
	positions cut flashing strip upside down away from box curb	1	2	3
	evenly heats back of flashing strips without damage to substrate	1	2	3
	lifts flashing strip with trowel, grips it and flops it into place	1	2	3
	presses flashing firmly into place	1	2	3
	NEVER TOUCHES THE FLASHING BOX WITH USE OF HIGH OUTPUT TORCH	1	2	3
3	Field mock-up stations 3 and 4: starting field membranes at roof edges or walls			
	wears proper PPE	1	2	3
	rolls membrane out 6 to 10 feet and positions in place	1	2	3
	stands on roll and flops membrane back	1	2	3
	evenly heats back of membrane without damage to substrate	1	2	3
	lifts membrane with trowel, grips it and flops it into place	1	2	3
	steps membrane in place and trowels lapped seam	1	2	3
	NEVER TOUCHES THE WALL OR EDGE WITH A FLAME	1	2	3
4	Field mock-up stations 3 and 4: installing target sheet at drain			
	wears proper PPE	1	2	3
	measures and pre-cuts target sheet including finger cuts	1	2	3
	positions cut target sheet upside down away from drain opening	1	2	3
	evenly heats back of target sheet without damage to substrate	1	2	3
	lifts target sheet with trowel, grips it and flops it into place	1	2	3
	presses target sheet firmly into place with trowel	1	2	3
	NEVER TOUCHES THE ROOF DRAIN WITH A FLAME	1	2	3

5	Field mock-up stations 3 and 4: installing field membrane over drain		
	wears proper PPE	1	2 3
	stops advancing roll before reaching drain	1	2 3
	rolls membrane over drain without heating; marks and cuts drain opening	1	2 3
	pulls roll back to expose bottom of membrane	1	2 3
	evenly heats membrane without damaging substrate	1	2 3
	lifts roll and flops the heated membrane over drain and into place	1	2 3
	immediately steps membrane into place and trowels around drain and lapped seam	1	2 3
	NEVER TOUCHES THE ROOF DRAIN WITH A FLAME	1	2 3
6	Field mock-up stations 3 and 4: installing field membrane around pipe penetration		
	wears proper PPE	1	2 3
	stops advancing roll before reaching pipe	1	2 3
	lifts and unrolls the roll backward, exposing underside of membrane far enough to extend beyond pipe	1	2 3
	pulls the extended membrane beyond penetration without heating and lays sheet up against pipe	1	2 3
	cuts and dry-fits membrane tightly around pipe	1	2 3
	pulls membrane roll backward and lays it upside down away from pipe	1	2 3
	evenly heats the membrane without damaging the substrate	1	2 3
	lifts roll and lays the membrane into place around pipe	1	2 3
	immediately steps heated membrane into place and trowels lapped seams	1	2 3
	NEVER TOUCHES THE WALL OR EDGE OR WITH A FLAME	1	2 3
7	Field mock-up stations 3 and 4: ending field membranes at roof edges and walls		
	wears proper PPE	1	2 3
	stops heating the roll before reaching wall or edge	1	2 3
	extends roll without heating to the wall or roof edge and cuts to length	1	2 3
	pulls unheated membrane back to the point it is fully bonded to substrate	1	2 3
	evenly heats the membrane without damaging the substrate; lifts heated membrane using a trowel; grips it and flops it into place	1	2 3
	immediately steps heated membrane into place and trowels lapped seams	1	2 3
	NEVER TOUCHES THE WALL OR EDGE WITH A FLAME	1	2 3
8	Shutting off the torch		
	sets lit torch down on its stand away from propane cylinder	1	2 3
	walks over to cylinder and closes the valve tightly	1	2 3
	returns to torch and squeezes trigger to burn out remaining gas from hoses and regulator	1	2 3
	closes all torch valves	1	2 3

**Certified Roofing Torch Applicator Recertification Training Program****TRAINING EVALUATION FORM**

To evaluate the effectiveness of this training, we need your honest evaluation of the training you just received. The rating system is on a scale of 1 to 5 (5 being the highest).

Name of trainer(s): _____ Date: _____

Training session No.: _____

1. This session met my expectations.

Not at all 1 2 3 4 5 Very much so

How/How not?

2. The course material was presented well.

Not at all 1 2 3 4 5 Very much so

How/How not?

3. The session environment made it easy for me to fully participate.

Not at all 1 2 3 4 5 Very much so

How/How not?

4. The handouts and visual aids were helpful.

Not at all 1 2 3 4 5 Very much so

How/How not?

5. The hands-on training was organized well.

Not at all 1 2 3 4 5 Very much so

How/How not?

6. I understood the fire-preventing torching techniques taught during the hands-on training.

Not at all 1 2 3 4 5 Very much so
How/How not?

7. Rate the trainer's effectiveness during the session.

Trainer (1): Low 1 2 3 4 5 High

Trainer (2): Low 1 2 3 4 5 High

8. Please rate your level of knowledge, skills and abilities in this subject area:

Before the session: Low 1 2 3 4 5 High

After the session: Low 1 2 3 4 5 High

9. Which sessions or aspects of the training were most helpful, and why?

10. Which sessions or aspects of the training were least helpful, and why?

11. Would you recommend this program to others?

(circle one) Yes No

Why or why not?

Other comments:

Thanks! We appreciate your feedback.

Please email this form to CERTAadmin@nrca.net or mail it within 10 days to:

NRCA

10255 W. Higgins Road, Suite 600

Rosemont, IL 60018-5607

Attention: CERTA Program Administrator