CERTA

Certified Roofing Torch Applicator Program








Torch-applied Roof System Safety

Recertification

Student Manual

03/2020

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PREFACE

Certified Roofing Torch Applicator (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

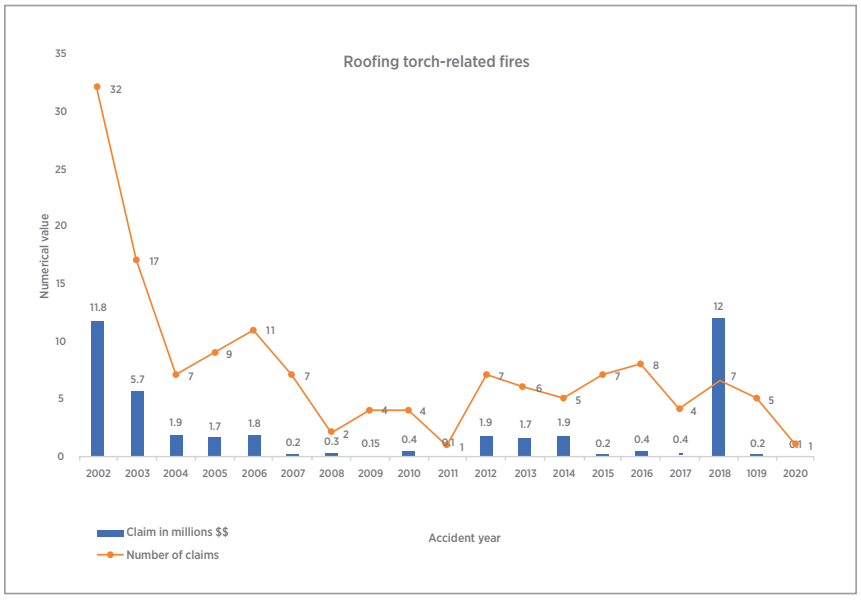
It is important to remember that the CERTA program is first and foremost a roofing industry safety program.

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 certified roofing torch (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 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. In 2017, FM Global recommends the use of CERTA applicators on FM-insured buildings.

New in 2017: FM Global recommends the use of 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 Midwest Roofing Contractors Association (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 Certified Roofing Torch Applicator Program, or CERTA.

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 Objectives

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.

Icebreaker: Roofing Society of Truth and Lies

You have just joined a roofing society of truth-tellers and liars. You and others in this society sometimes tell the truth and sometimes lie. The key to success is to know when you are being lied to and when you are being told the truth.

Each person takes a turn guessing if another person's story about using a roofing torch is the truth or a lie. If both players are correct, both advance. If both are incorrect, both advance. If only one player is correct and one is wrong, the incorrect person is out.

Follow these instructions to play:

1. First, find an initial partner, preferably someone you do not know well. One partner flips a coin and does not reveal the coin toss result to the other partner. If the coin reveals "heads," tell the truth; if "tails," tell a lie.

2. You and your partner will swap stories about an experience you each had using a roofing torch. The first partner does not reveal whether the story was true or a lie until both of you have told your stories. Each partner must then guess whether the other partner's story was true or if it was a lie.

3. If both of you guess correctly, both partners move on and each finds another partner. If both guess incorrectly, both also move on and each finds another partner. However, if one partner guesses correctly and one incorrectly, the person who guessed incorrectly is out.

4. Move on and repeat steps 1 through 3 until only one person remains and is declared the winner.

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 the daily checklist for all torching jobs.

2. PRE-JOB PLANNING

2.1. Identify and protect plywood, oriented strand board (OSB), wood plank, wood fiberboard and other combustible building components as follows:

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 Address possible fire traps and hidden hazards; see No. 3, Torching Safety, Items 3.1 through 3.5.

2.2 Have a minimum of two 4A60BC fire extinguishers available within 10 feet of torch operations.

2.3 Train all personnel on the roof on how to use a fire extinguisher.

2.4 Inspect penetrations, such as exhaust vents, inside and outside. Lint, grease or other substances, if present, shall be cleaned prior to torching work.

2.5 Have a cell phone available or other means of communicating with 911 or another emergency responder.

2.6 Comply with state and local ordinances where applicable.

2.7 Field-of-the-roof installation

2.7.1 Over *combustible*[1] roof decks:

2.7.1.1 A thermal barrier shall be incorporated into the roof system design using torch-applied polymer-modified bitumen sheet products. Acceptable thermal barriers include one of the following:

- Minimum ¾-inch-thick perlite board insulation
- Minimum ¾-inch-thick fiberglass board insulation or stone wool
- Minimum ¼-inch-thick gypsum roof board

2.7.1.2 When a thermal barrier is installed, comply with the manufacturer's recommendations and the recommendations contained in The NRCA Roofing Manual.

2.7.2 Over *noncombustible*[2] roof decks:

2.7.2.1 Comply with the manufacturer's recommendations and the recommendations contained in The NRCA Roofing Manual.

2.8 Flashing installation: Polymer-modified bitumen flashings shall be installed using one of the following flashing system application methods:

2.8.1 Torch-and-flop indirect torching

2.8.2 Cold-applied adhesives

2.8.3 Mop-applied with hot bitumen

2.8.4 Direct torching using a single-burner, low-output (105k Btu or less) "detail" torch over *combustible*[1] or *noncombustible*[2] substrates as follows:

2.8.4.1 Over *combustible*[1] substrates, an air-impermeable backer layer with sealed laps installed over the flashing 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:

- A layer of fiberglass ply sheet, fiberglass base sheet or polymer-modified bitumen base sheet mechanically fastened to the substrate and an additional layer of a minimum of one layer fiberglass ply sheet or polymer-modified bitumen base sheet adhered to the underlying layer in solid moppings of hot asphalt
- Minimum of one layer of self-adhering, smooth-surfaced polymer-modified bitumen sheet

2.8.4.2 Over *noncombustible*[2] 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:

- Minimum of one layer of fiberglass ply sheet, fiberglass base sheet or polymer-modified bitumen base sheet adhered in solid moppings of hot asphalt
- Minimum of one layer of self-adhering, smooth-surfaced polymer-modified bitumen sheet

Note: If the membrane flashing substrate cannot be specifically identified as *noncombustible,*[2] direct torching with a detail torch is permitted if 2.8.4.1 is used.

3. TORCHING SAFETY

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

3.1.1 Using an open flame for roof drying or de-icing over *combustible*[1] roof surfaces shall not be permitted.

3.1.2 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 *combustible*[1] roofing materials.

3.2 Protect materials that may burn when in contact with an open flame. Never torch directly to any *combustible*[1] material.

3.3 Never torch directly in 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.

3.4 A lit torch shall only be placed on the roof surface using a functional torch stand.

3.5 A lit torch shall never be left unattended.

4. FIRE WATCH

4.1 After all roofing torches have been shut down, a minimum two-hour fire watch, as described in the CERTA training program, shall be conducted by a properly trained and dedicated individual; it shall include checking the roof's underside for smoldering (whenever possible), as well as the top side. There also must be a fire watch during lunch and all breaks.

[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. 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 do this to 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-adhered) 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. _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

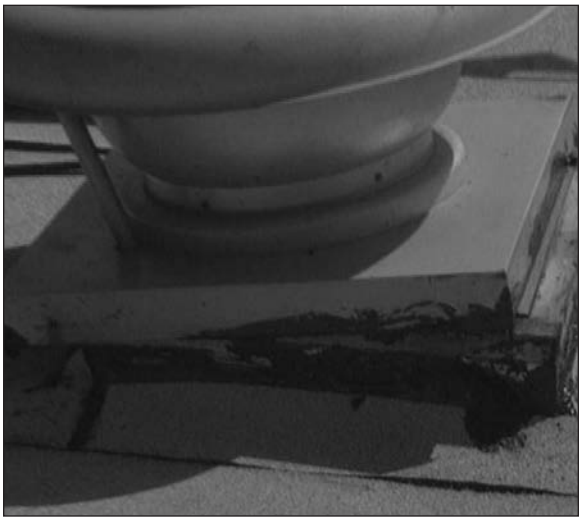
3. _____

4. _____

5. _____

6. _____

7. _____



8. _____

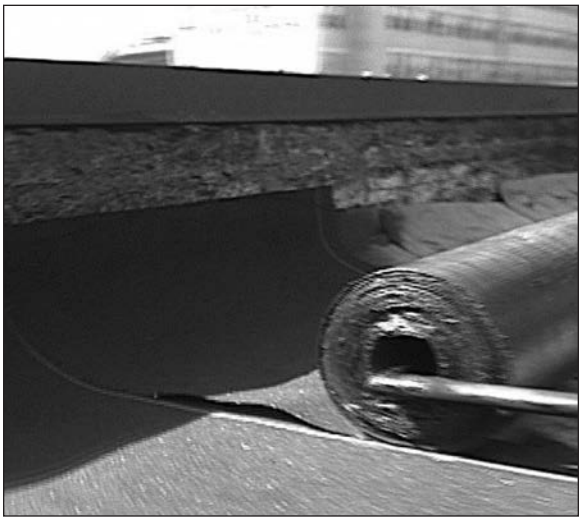
9. _____

10. _____

11. _____

12. _____

13. _____



14. _____

15. _____

16. _____

17. _____

18 _____

19 _____

20. _____

APPENDIX | REFERENCE MATERIALS

Related Industry Organizations

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

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

Midwest Roofing Contractors Association (MRCA)
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Toll Free: (800) 497-6722
Fax: (937) 278-0317
Email: info@mrca.org
www.mrca.org

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

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

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Rosemont, IL 60018-5607
(847) 299-9070 Fax: (847) 299-1183
Email: nrca@nrca.net
Web site: www.nrca.net

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

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

Certified Roofing Torch Applicator Training Program

Daily Inspection Checklist

Inspection Date:	
Project Name:	
Address:	
Roof Deck Type:_____ ☐ underside exposed ☐ 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		

This page is left intentionally blank.

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:

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Attention: CERTA Program Administrator