



Construction

CERTA – NRCA Certified Roofing Torch Applicator Program



Help save lives, property and your hard-earned name.

Since the implementation of the CERTA Program, CNA has helped roofing contractors save over \$12 million in potential incurred claims. Thanks to your continued commitment to safety, we’ve also reduced the total number of claims to less than 20 claims over 15 years. Fires, however, can result in the costliest damage. By applying the strategies outlined in this document, together we can continue to keep claims to an absolute minimum, while also reducing the total dollar value of incurred losses.

Quick facts about roofing fires

The dangers are real.

- Extreme danger to life and property
- Entire building could burn down
- Employees and others could suffer serious burns

A fire can occur anywhere, to anyone.

- Negative air pressure can draw flames into a building
- Hidden wood is ignited
- Wood cant strips in concealed areas catch fire
- Careless use of torch
- Combustibles smolder and ignite after roofer leaves job site

Trained applicators and safe practices can reduce risks.

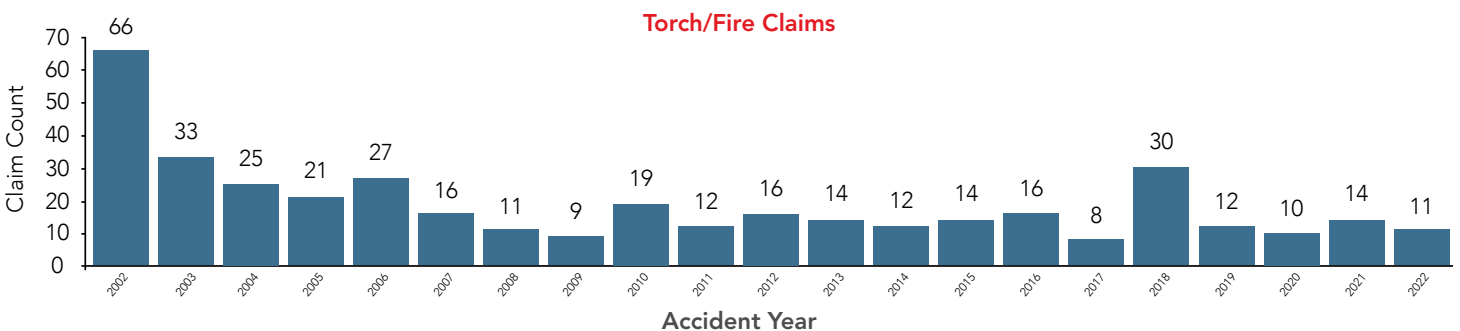
- Identify and protect all combustible roof components
- Safely use a roofing torch in hazardous areas
- Exercise two-hour fire watch after any torching activity

Adhering to basic safety practices helps save lives, property and your good standing.

Since the implementation of the CERTA Program, CNA has helped roofing contractors save \$12 million in potential incurred claims.

In recent years, most claims have been caused by oversight of basic best practices such as: improper fire watch, torch use near HVAC or other open ducts and not noticing wood substrate. Let’s work together to continue to raise the bar and make the industry better.

Learn more about the CERTA program at nrca.net/education/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. Portland cement or min. 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. Application Continued

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 of 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 two-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.

To learn more about how CNA's Risk Control services can help you manage your risks and increase efficiencies, please contact CNA Risk Control at RiskControl@cna.com or visit cna.com/riskcontrol.

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NRCA Disclaimer

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