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

CERTA – NRCA Certified Roofing Torch Applicator Program

Safe Practices for roofing torch use

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 claims from a high of 32 in 2002, to single-digits in each of the last thirteen 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.

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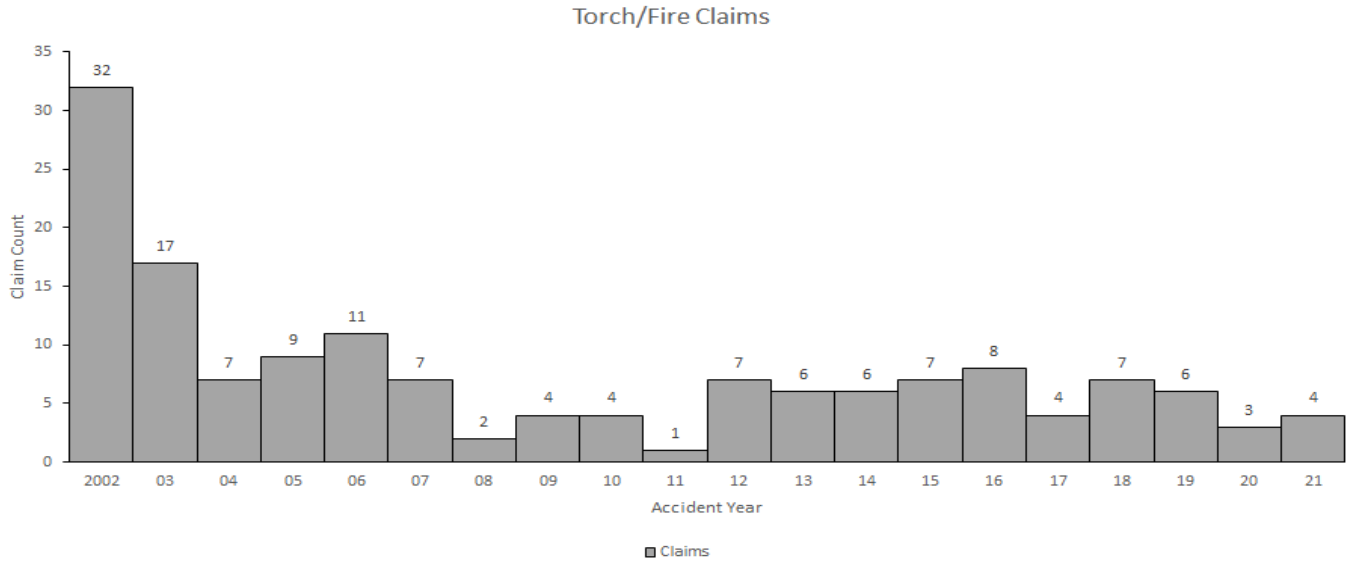
In recent years, most claims have been caused by oversight of basic best practices such as: improper fire watch, torch use near HVAC or other open ducts and not noticing wood substrate. Let's work together to continue to raise the bar and make the industry better.



Safety Practices for Roofing Torch Use

CHECKLIST

1.1 Complete a daily safety checklist for all torching jobs.

PREJOB 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 should hold a daily review with the building owner regarding conditions that could present hazards during torching and address them.
- 2.1.2 Address possible firetraps and hidden hazards; see "Torching Application Safety" below.

2.2 Have a minimum of two 4A:60B:C fire extinguishers (or equivalent) available within 10 feet of torch operations.
2.3 All personnel on the roof shall be trained on how to use a fir e 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 communication, with capabilities to reach "911" or another emergency responder.
2.6 Know and comply with applicable state and local ordinances.
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:
    - 3/4-inch-thick (minimum) perlite board insulation
    - 3/4-inch-thick (minimum) fiber glass board insulation
    - 1/4-inch thick (minimum) 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: Membrane Roof Systems — 2007.
- 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: Membrane Roof Systems — 2007.

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's 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 fiber glass 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.

TORCHING SAFETY

3.1 Only NRCA/MRCA CERTA certified torch applicators shall operate torches when an open flame will come in contact with any part of a roof.
- 3.1.1 Using an open flame for roof drying or de-icing over combustible1 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 come in contact with combustible1 roof 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.

END-OF-DAY FIRE WATCH

4.1 A minimum two-hour fire watch, as described in the NRCA/MRCA CERTA Ttraining Pprogram, 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.

[1] *Combustible, i.e., plywood, oriented strand board (OSB), wood plank or wood fiberboard*

[2] *Noncombustible, i.e., concrete, masonry, concrete block or gypsum*

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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.