

Torch Applied Modified Bitumen Roofing JHA

Worked instructional example

Work and worksite

A trained roofing crew will apply a specified torch-compatible modified bitumen system to a released low-slope roof area under the site hot-work authorization. This fictional learning example records planned controls; it supplies no actual inspections or work authorization.

- The roof assembly, concealed combustibles and nearby openings are assessed for this method.
- Fall protection, propane setup, fire prevention and a post-work fire-watch plan are in place.
- This excludes torching onto combustible decks, unseen areas, tanks or a roof assembly not approved for torch application.

Questions before work

- What establishes that the actual roof assembly permits torch application?
- Which concealed areas and building interiors require fire-watch access?
- What post-work inspection duration and handover do the governing requirements specify?

Task Hazard Control

1 Release the roof assembly and hot work

Hazard: Flame can ignite concealed combustibles or enter occupied building space.

Control: Supervisor verifies system suitability and the hot-work authorization, inspects both roof and affected interior areas and uses an approved flame-free method where the torch method is unsuitable.

Verification: Check the actual assembly, permit conditions and concealed-area access before fuel setup.

Reasoning: A clean roof surface cannot establish what lies beneath.

2 Establish fall and fire protection

Hazard: Workers can fall while handling rolls; an incipient fire can escape detection.

Control: Maintain the planned fall protection, protected access and evacuation route. Assign the required fire-watch coverage and suitable extinguishing equipment without exposing the watcher to unprotected edges.

Verification: Supervisor checks protection and fire-watch readiness before ignition.

Reasoning: Fire-watch duties do not remove the watcher's own fall exposure.

3 Inspect propane and torch equipment

Hazard: Leaks, damaged hoses or unsuitable cylinder placement can cause fire or explosion.

Control: Use the actual propane and torch instructions and applicable LPG requirements for cylinder support, connections and safe leak checks. Remove defective equipment; never heat a frosted cylinder with the torch.

Verification: Authorized operator completes the specified inspection and leak check before ignition.

Reasoning: An open flame is not a leak-test method.

Complete the work and hand over

4 Apply within the released area

Hazard: Flame, hot material and roll handling can burn workers or ignite the assembly.

Control: Follow the approved system method from stable access, control flame direction and keep it away from unseen areas, vents and combustibles. Stop when the released method cannot be maintained.

Verification: Operator and watcher monitor the actual flame path and adjoining areas.

Reasoning: The torch operator cannot observe every concealed fire path alone.

5 Shut down and secure fuel

Hazard: An unattended flame or leaking fuel can ignite after work pauses.

Control: Shut off and secure the torch and fuel by the specified procedure for breaks, changes and closeout. Keep hot equipment away from combustible material and maintain the fire-watch plan.

Verification: Operator verifies shutdown; watcher continues the required coverage.

Reasoning: End of torching is not end of fire risk.

6 Complete postwork checks and hand over

Hazard: Smoldering material can cause a delayed building fire.

Control: Follow the post-work inspection and monitoring plan. OSHA roofing guidance recommends at least two hours after the last torch is extinguished, including the roof field, flashings and underside. Meet any stricter applicable criteria and transfer continuing watch to an identified person before leaving.

Verification: Supervisor confirms completed checks and an explicit fire-watch handover.

Reasoning: A roof-only visual check may miss concealed heat.

Pause and reassess

- Assembly, concealed-area access or hot-work conditions are uncertain.
- Fuel leak, hose damage or fire-watch coverage failure occurs.
- Wind, occupancy, fall protection or the approved application method changes.

Improve the controls

Needs improvement: Be careful around the equipment.

More useful: Use the actual propane and torch instructions and applicable LPG requirements for cylinder support, connections and safe leak checks. Remove defective equipment; never heat a frosted cylinder with the torch.

Needs improvement: Check the area before starting.

More useful: Supervisor verifies system suitability and the hot-work authorization, inspects both roof and affected interior areas and uses an approved flame-free method where the torch method is unsuitable.

Decisions that change the analysis

How long should post-torch fire-watch inspections continue?

OSHA's Protecting Roofing Workers guidance recommends inspections throughout the day and for at least two hours after the last roof torch is extinguished, including the roof field, flashings and underside of the deck. Apply any longer duration or additional checks required by the hot-work authorization, insurer, manufacturer or site. This is roofing guidance, not a universal interval for every hot-work task.

What must be recorded before this example is used on a job?

Replace the scenario with the actual work, identify additional hazards with the crew, and record the applicable instructions, responsible people, inspection findings, unresolved actions and required authorization. A planned verification is not an inspection result.

Training needs

- Torch-roofing system and LPG equipment instruction by suitably trained personnel.
- Concealed-fire recognition, fire-watch duties and fall protection.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

References and adaptation

OSHA Protecting Roofing Workers

<https://www.osha.gov/sites/default/files/publications/OSHA3755.pdf>

OSHA 1926.150 Fire protection

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.150>

OSHA 1926.153 Liquefied petroleum gas

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.153>

OSHA 1926.501 Duty to have fall protection

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.501>

OSHA 1926.503 Fall protection training

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.503>

References reviewed October 9, 2026. Use actual equipment and product instructions, project design and site requirements. This instructional example supplies no actual inspection results, signatures or work approval.