



ROOFING AND WATERPROOFING TRADE

VENT INSTALLATION

PROJECT OVERVIEW

A general contractor, not a roofing contractor, was hired to install a plumbing system vent in an existing sloped roof.

ROOF VENT ISSUES

A few weeks after installation, puddles of water were found on top of and all around the boiler unit in the basement of the building.

- A plumber was called and could not find any leaks from the boiler unit or basement plumbing.
- It was classified as condensation.

A week after the plumber's diagnosis, the boiler unit stopped working and was replaced with a new unit.

- During the boiler replacement, it was discovered that the roof vent boot flashing was not sealed with any waterproof roof sealant.

Every time it rained in that last week:

- The rain leaked under the unsealed vent boot flashing, running down the vent pipe, and landing directly on the boiler unit inside the building.

This leak is what caused the boiler to be destroyed by pooling water.

- The leak also caused mold and rot, damaging multiple wood beams and supports.

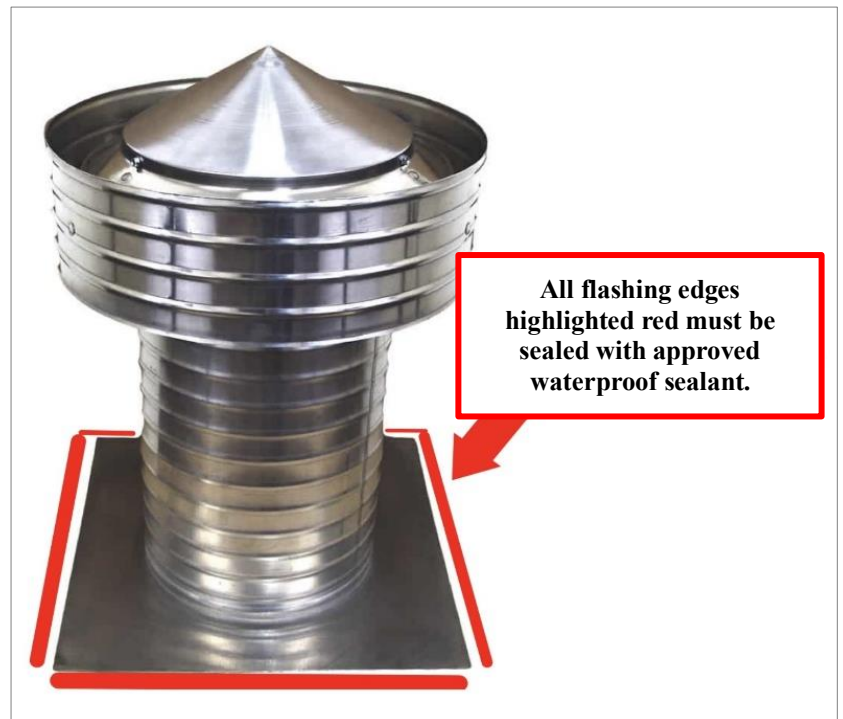
LESSONS LEARNED

The added cost was approximately \$115,000, including:

- A new boiler and installation.
- Replacement of all affected lumber, including support joists.
- A new roof vent cover with the flashing correctly sealed with waterproof roof sealant.

How To Prevent These Kinds of Issues

- A. Ensure the contractor working on the roof has proper roofing experience.
- B. Please read the label on the waterproof sealant to ensure it is appropriate for the climate you are working in.
- C. All roof vent seams and flashing must be completely sealed with an approved waterproof sealant.
- D. After the sealant is dry, test it for leaks.



DISCUSSION QUESTIONS

1. Has the contractor read the installation instructions that come with the vent boot?
2. Has the pitch of the roof been considered so that when the flashing is sealed, the water runs off properly?
3. Is the proper waterproof sealant being used? (a.) Roofing approved? (b.) Is it waterproof? (c.) Approved for the climate?

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ROOFING AND WATERPROOFING TRADE VEHICLE LOAD SECUREMENT SAFETY TOOLBOX TALK

OVERVIEW

Load Securement is a broad topic that covers all aspects of fastening or securing materials and equipment to a stable surface.

- This Roofing Waterproofing Trade topic is geared toward securing materials to a company vehicle and equipment.

Properly secured materials and equipment will eliminate their potential to be accidentally dislodged.

- Failed load securement on US roadways over a four-year period has led to 200,000 crashes, resulting in over 500 deaths and 39,000 injuries.
- Materials and equipment are dislodged for several reasons, such as vehicle accidents or incidents, improper load ties, lack of load ties, removing load ties out of sequence, and many more.
- Depending on the situation, accidents caused by objects being dislodged from a vehicle, the driver and the owner of the vehicle could be held criminally as well as civilly responsible.

LEARN AND APPLY THE FOLLOWING

- Unsecured or improperly secured loads on or in vehicles can destabilize vehicles, leading to driver loss of control.
- Destabilized loads result in rollovers, jackknives, accidents, and cargo loss.
- Materials flying out of a truck become obstacles for other drivers.
- Unsecured items in the back of a pickup are known to disappear. Chances are they rolled out or were dislodged by the wind. Where they, hopefully, landed safely on the road's edge?

Signs of an Unsecured Load

Look for trucks with 1) poorly or sloppily stacked materials, 2) lopsided or uneven, 3) loads not strapped or tied down, and 4) overloaded vehicles.

Vehicle Load Securement Safety

- Keep workers not involved in vehicle loading and unloading away from the area.
 - Before use, maintain and inspect straps, tie-downs, and other fastening equipment, following the manufacturer's guidelines.
 - Inspect loads for signs of unstable material before unstrapping. Something may come loose and fall when the ties are loosened.
 - Load materials evenly and keep equipment and materials level—secure loads following industry and company practices.
 - Stack and store materials with no more than a 4:1 height-to-base ratio.
 - Always inspect loads after securing them.
- After you start transporting a load, re-inspect the load after a couple of turns or a few miles.
 - Look for material that may have shifted.
 - Many loads require unstrapping to follow a sequence to prevent shifting.
- Loose materials fly from trucks; therefore, crate the materials with a tied-down lid for safe transportation.
 - Tie-down rolled roofing and waterproofing. These are heavy and will dislodge during a vehicle incident.
 - Contain flying debris. Tarp the load when transporting removed roofing material.

Properly Secure Roofing Materials



Meeting Date:
Supervisor:
Employee Name:

DISCUSSION QUESTIONS

1. Who has been trained in load securement? What did this training include?
2. What are the hazards and signs of an Unsecured Load?
3. What are our company's requirements for safely securing a Vehicle Load?
4. When else can we use load securement other than vehicle transpiration?