

A Few Examples of Building Failures

re S.253 An act related to building codes

Rep. Scott Campbell

April 25, 2024



Single Family Home, Warren VT
Built: ca. 2013

Problem: Failed roof sheathing, insulation, and finishes due to lack of vent channel (to make a cold roof) and lack of air sealing. Air moved through, dropping moisture. After eight years (2021), the entire roof assembly, including most rafters, had to be rebuilt.

Cost to repair: over \$20,000

Act 47 Building Energy Code
Study Committee report, 12/1/23



**Single Family Home, Williston
Built: around 2015**

Problem: Spray foam with hot roof assembly and improper vapor management. Roof and wall sheathing were destroyed.

**Estimated cost to repair: up to
\$200,000**

Act 47 Building Energy Code Study
Committee report, 12/1/23



**Single Family Home, Essex VT
Built: approx. 2002**

Problem: Medium density closed cell foam was installed without a vapor control layer. Moisture destroyed the wall sheathing. Windows were installed without nailing fins (no waterproofing/ flashing). The building wrap was poorly installed and vinyl siding was installed without a rain screen. A ventilation system was improperly installed, so the house was overpressurized, which pushed the moisture even more.

Estimated cost to repair: \$50,000 - \$75,000.

Act 47 Building Energy Code Study
Committee report, 12/1/23



Single Family Home, Craftsbury VT Built: 2006

Problem: Inadequate application of foam insulation and vapor barrier. In first winter, ice jams of 6-7 inches built up on the roof. The foam had shrunk away from the rafters causing large gaps. A consultant found two problems:

(1) the insulation was sprayed in one 6" application, rather than spray in 2" applications.
(2) The mixture used was "off ration" and "lacking isocyanate." The case was litigated and eventually a second installer was hired to repair the work.

In 2021, the owners again noticed heat loss from the roof. They found they needed to tear off the roof and replace the insulation in full. The rafters were now rotten due to high moisture, so in 2022 and 2023 the entire roof had to be replaced.

Financial Damages:

- \$15,000 legal fees 2008 - 2009
- \$14,000 insulation repairs 2009
- \$40,000 insulation and roof 2022, 2023



This was discovered yesterday in a 15 y/o house in the NEK. I guess the roof is way worse. Open Cell Foam and OSB. 15 years ago this spray foam was sold as a “premium” product. The owner’s wondered why their siding was falling off.

From Jason Webster, Huntington Homes, 3/8/24

