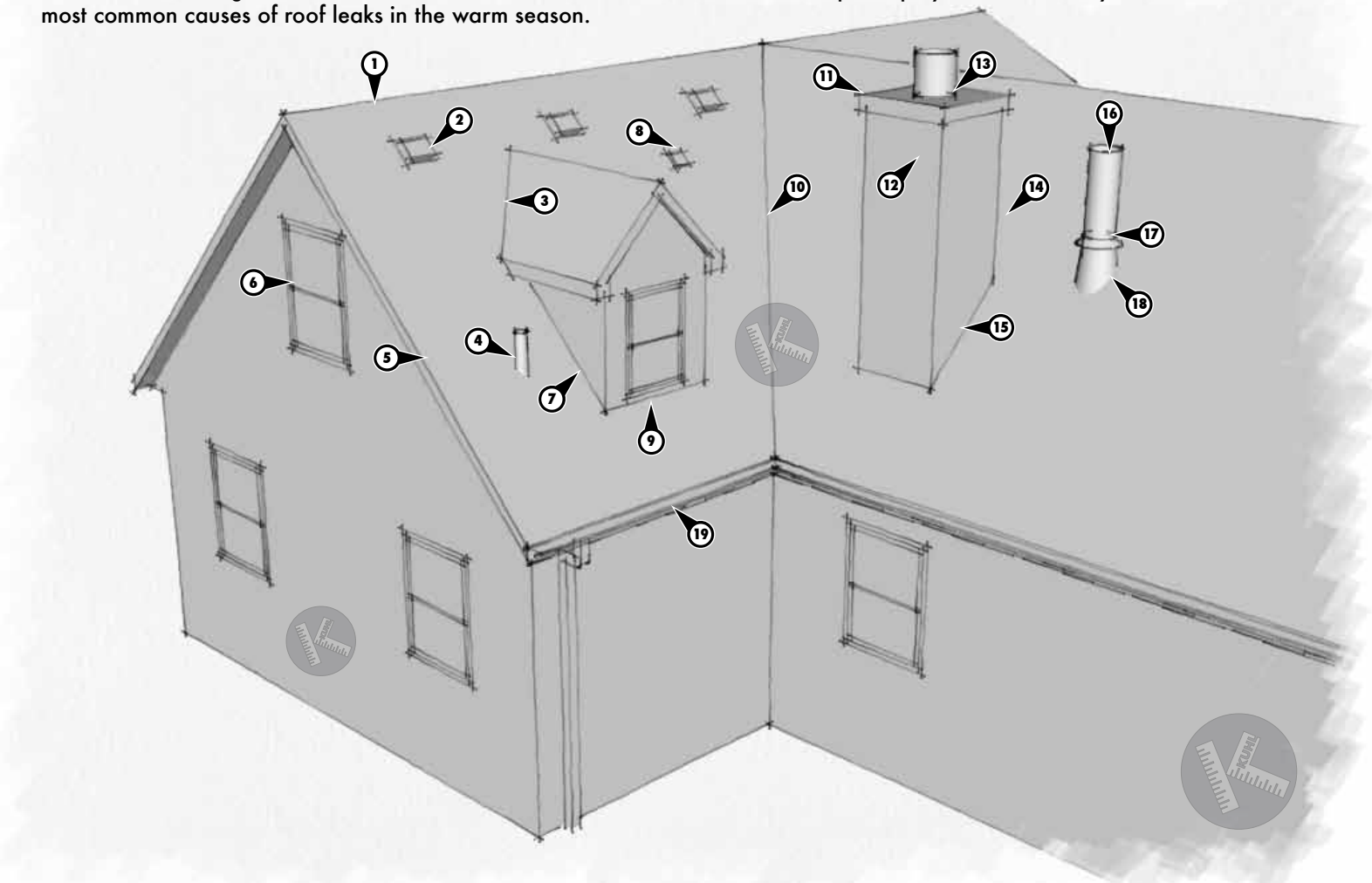
CASE STUDY
KUHL SOLUTIONS TO CLIENT PROBLEMS

KUHL CASE #14

Minneapolis Roof Leaks Part One
Expert Advice On Common Roof Leaks In Minnesota

Often times the most difficult thing in resolving a roof leak is to find it in the first place. Roof leaks in Minneapolis present some extra challenges because of the added influence that snow and ice buildup can play. This case study will examine the most common causes of roof leaks in the warm season.



COMMON MINNEAPOLIS ROOF LEAKS

1. Ridge, otherwise known as the peak, is a common place for water infiltration. Look for uplifted or loose ridge material. Animals love chewing through ridge too.
2. Roof vents, in particular plastic roof vents, are the source of some leaks we investigate. Normally they leak due to damage by storms, animals or poor installation.
3. Valleys. Roofs almost never leak in the field. Instead they leak where there are breaks in the surface or intersections of roof planes such as valleys.
4. Plumbing or HVAC vent pipe penetrations leak during both warm and cold seasons. The rubber gasket, called a 'boot' often cracks open after 10-12 years after install.
5. Wind-driven water can work under the rake edge roofing material and show up inside. These leaks usually manifest near the outside gable walls of the home.
6. Leaks in windows are often thought to be roof leaks because they sometimes show up on the ceiling many feet from the window itself. We always check out windows.
7. Side wall flashing, also known as step flashing, can leak either due to wind-driven rail or improper installation. The latter is by far the most common.
8. Bath and kitchen vent hood penetrations leak almost exclusively due to being poorly installed. The water can follow the vent pipe and manifest many feet away.
9. Dormer flashings connect vertical walls with roofs. If these flashings are not installed behind the siding correctly there will be leaks.
10. Gutters that are not sloped correctly or full of debris can allow water to back up into the eave and into the home. This happens winter or summer.
11. Chimney caps. Water that gets in through the cap of a chimney, in particular a wood or stucco chimney, will often show up inside the home on walls or ceilings.
12. Water that gets into the siding of wood or stucco chimneys will eventually show up inside the home, usually on the ceiling.
13. The flue penetration joint through the chimney cap will leak and let water into the home if it is not sealed properly.
14. The saddle (not shown) is the structure that sheds water away from the top side of the chimney. Saddle problems are very, very common in Minneapolis.
15. Step flashing along chimneys, in particular masonry chimneys, frequently leak during long, wind-driven rains that force water 'uphill' into the chimney.
16. Uncapped furnace flues will allow water directly down the flue, which are not waterproof. This explains the rusty water next to your furnace in the basement.
17. The storm collar on flues should be caulked. This caulk often fails after about ten years, leaving water an easy way into the home.
18. The cone flashing around the base of furnace flues will fail on rare occasion. It's more common for leaks in this area to be due to bad installation of the flashing.

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