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Shedding Light on Your Dark, Scary Attic

Attics are an important part of your building! Look, we get it. They can be dark, scary, and often overlooked. We will help you conquer that three-headed attic monster and enlighten you on what a functional attic can do for your building – and your wallet!

The most common attics in our climate zone are unconditioned spaces. This means they are not heated or cooled like the inside of your home. There are several components that make up this type of attic, including but not limited to: asphalt shingles, shingle underlayment, sheathing, wood framing, ventilation (i.e. passive vents, vented soffit panels, rafter vents, etc), insulation, vapour barrier, air seal caulking/weatherstripping, an access hatch, drywall ceiling, and more.

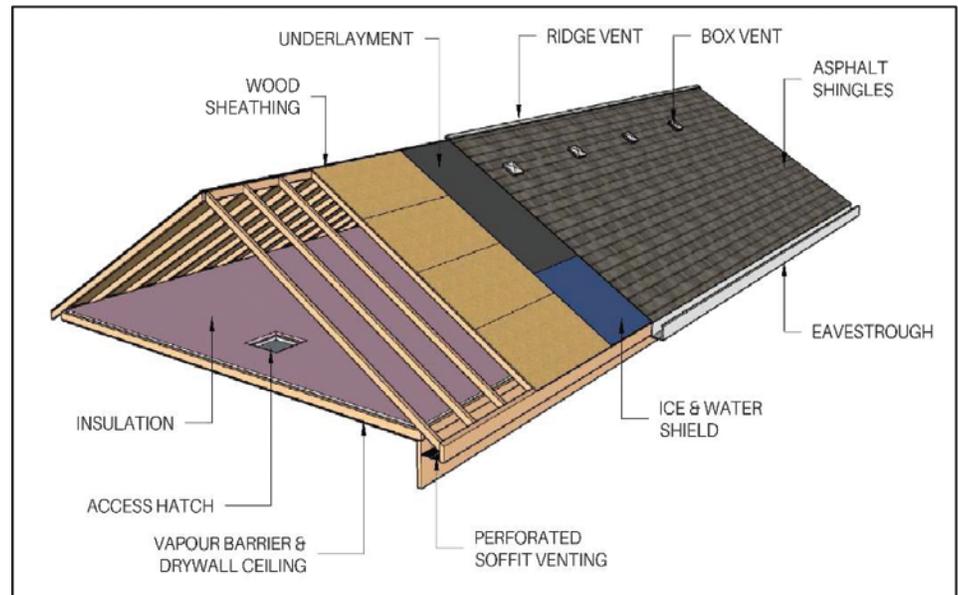


Figure 1: Attic Components

Let's dive deeper into common issues we see in unconditioned attics, the three most important aspects of your attic, what a well-functioning attic can do for you, and how an Engineering Consultant can help you bring all these things together to meet your attic improvement needs!

continued...

Time to conquer your 3-headed attic monster!

The 3-headed attic monster – not so scary, just misunderstood. We want to make this monster happy, because when it's unhappy, it can create all kinds of problems for you, including:

Ice Damming

- Damaged roof shingles, sheathing
- Leaks into living space
- Icicle hazards

Roof Shingle Failure

- High shingle temperatures
- Curling & granular loss
- Shorter shingle life

Condensation in Attic

- Mould growth
- Wood damage/rot

Uncomfortable Interior Temperatures

- Heat escape in winter (conduction)
- Heat entry in summer (radiation)
- More expensive utility bills

So, how do we make your monster happy?

Easy – we give it what it likes. This monster likes a cold space, a dry space, a space separated from its downstairs dwellers, and fresh air.

But how do we provide these conditions for your monster? By ensuring the

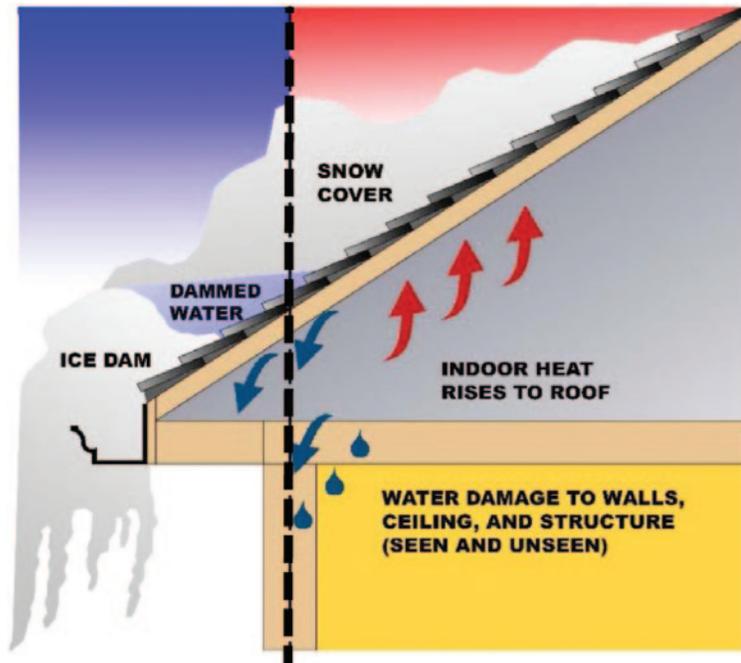


Figure 2: Ice Damming

three most important aspects of your attic (insulation, air sealing, and ventilation) are optimized.

Insulation

The insulation in your attic is designed to limit thermal transfer between your conditioned living space and your unconditioned attic space. Types of insulation used typically include loose-fill or blown-in, fiberglass batt, or even spray foam. Older buildings will often have less than optimal levels of insulation due to the building code requirements at the time

of construction.

Proper insulation can help create a thermal barrier between spaces, increasing comfort and even reduced energy use.

Ventilation

Attic ventilation is the process of creating air flow through your attic, using low venting and high venting. Most attics in our climate zone rely on passive venting – a natural process where warmer air rises and gets replaced with colder air from below. Another main contributor to ventilation is wind. Low venting typically includes perforated soffit panels and high venting can include box vents or ridge vents.

An often overlooked component of ventilation is the presence of baffles along the eaves of the roof. Baffles are installed at the base of the roof joists to provide a clear channel for air to flow from the low soffit vents, up along the roof sheathing and out the high vents. Without baffles the attic insulation will often impede the airflow, greatly reducing the much-needed attic cooling effect.

Together, proper insulation, air seal-

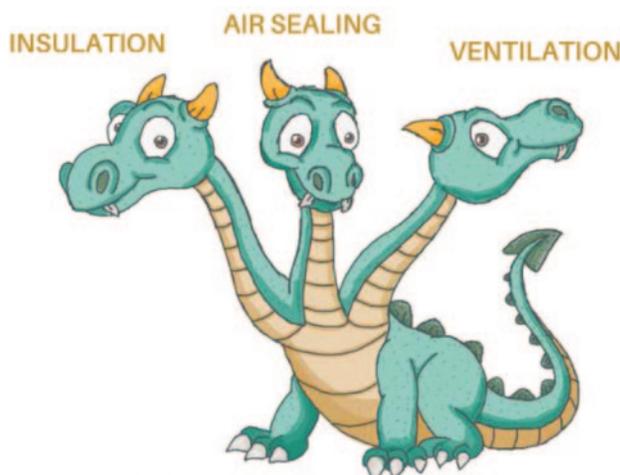


Figure 3: A Happy Attic Monster

ing, and ventilation can provide you with optimal attic conditions – making your attic monster very happy! It will increase resident comfort, improve your building's

performance, and increase the service life of your shingles and other roof components.

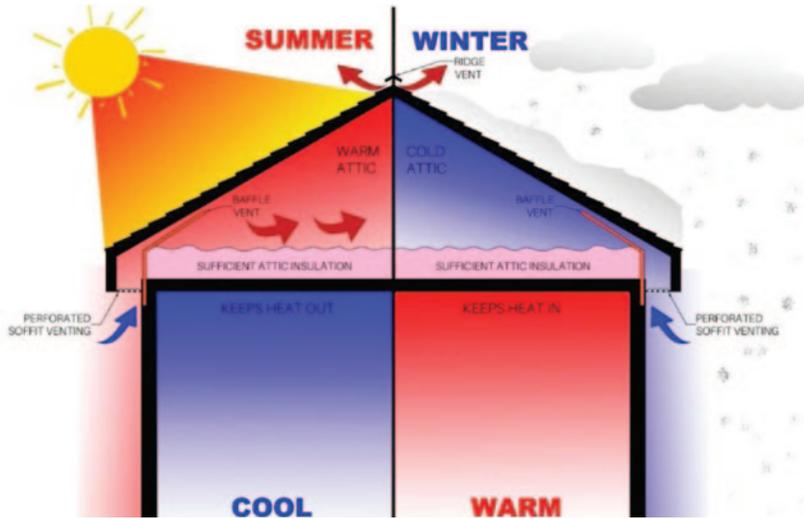


Figure 4: Properly Insulated Attic

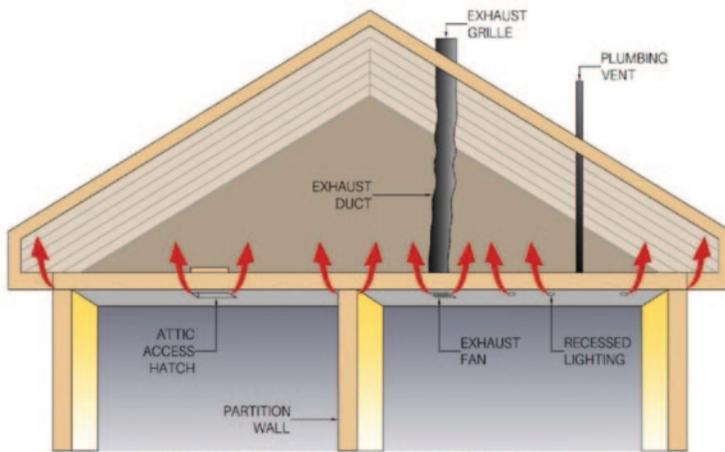


Figure 5: Common Sources of Air Leakage

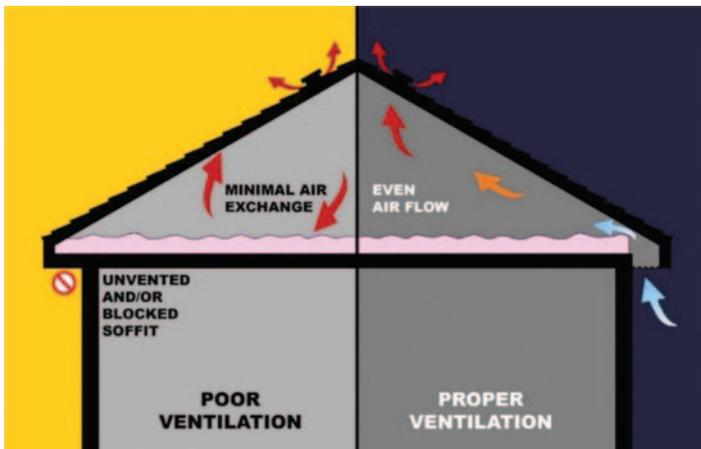


Figure 6: Good vs. Bad Ventilation

What can an Engineering Consultant do for you?

Have your attic space and roof shingles reviewed by your engineering consultant prior to setting final project budgets. This review will provide the Board with critical information on how your attic monster is feeling – and how your attic is performing – before you undertake repairs. It is far more economical to complete attic repairs or upgrades in combination with a shingle replacement project. This allows contractors to remove or repair damaged roof sheathing and provides easy access to your attic from the outside! No need to have contractors fighting through that attic hatch in your closet. Finally, reviewing and upgrading your attic during a re-roofing project will ensure you are maximizing your new roof's service life and optimizing your investment.

It may also make sense for you to review and upgrade your attic during government homeefficiency rebate programs – when you can recuperate some of the upfront costs, and then reap the long-term energy benefits.

Want to learn more?

Edison Engineers can assist you through this process; just give us a call or email!

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Edison is a communication-focused professional engineering and project management firm specializing in the repair and restoration of existing buildings. Over 60% of our services are for Condominiums. We specialize in Restoration work and leverage that knowledge and experience to help our clients develop repair plans and Reserve Fund Studies aligned to their objectives and financial constraints. 