

DEALERS-IN-ACTION Best Practices at Work - Fall 2019

CHEVALIER RESIDENCE Mount Lorne, Yukon



Installers: Theo's Construction & Renovations, Carcross, Yukon

THE CHALLENGE

In this project, a free-standing woodstove is located on the main floor. It passes from the Reduced Clearance Support and continues through the upper floor which has a vaulted ceiling.



Reduced Clearance Support was used at the ceiling on the main floor.



View from the upper floor with vaulted ceiling. The Pass-Through Radiation Shield is already in position.



Pass-Through Radiation Shield in place within truss assembly



The roof in this new home was built using parallel-cord trusses. The space within the trusses will be filled with insulation up to the underside of the roof-deck. Only a small, continuous gap will be left between the insulation and roof-deck for ventilation purposes. In applications like this, insulation depths can approach 30" which helps to ensure maximum home energy efficiency in colder climates.

When observing similar jobs, it's not unusual to spot shortcuts. A little error, or a series of errors, often accumulate resulting in BIG problems. As we say during factory-training sessions "BAD comes in bunches." Perhaps framing requirements were ignored or an improper firestop was used. Maybe the vapour barrier was not sealed around the penetration, or measures were not taken to prevent the surrounding attic insulation from coming into contact with the chimney. A limitless number of errors are possible.

Rather than going to the effort of building a properly framed enclosure, an inexperienced installer may attempt to patch together their own shielding or firestop solution. Aside from being ineffective (leaky), these improvised solutions could also compromise product safety.

In this case, the Chevalier's did their research. They wanted it done right. That is exactly why they chose to work with Theo Stad and his team of experienced installers. They have an excellent reputation in the Yukon region; especially when it comes to high-efficiency home construction.

Theo chose to use the PASS-THROUGH RADIATION SHIELD for these reasons:

- Fits within standard, framed openings at the vaulted ceiling and roof-deck.
- Two-piece overlapping design allows the shield to telescope from 24" right up to a maximum of 46" height.
- Using a continuous box ensures that appropriate clearances to surrounding combustibles and attic insulation are maintained from top to bottom.
- Factory firestop is already incorporated into the bottom of the shield.
- The gap between the firestop and chimney CAN be sealed using high-heat caulking.
- If using approved rock-wool (mineral wool), the inside of the shield around the chimney CAN also be insulated. In fact, a batt of rock-wool insulation is included right from the factory!
- Vapour barrier can be sealed directly to the shield's outer box perimeter.

SQUARE-TO-ROUND COLLAR IS INCLUDED AS STANDARD EQUIPMENT

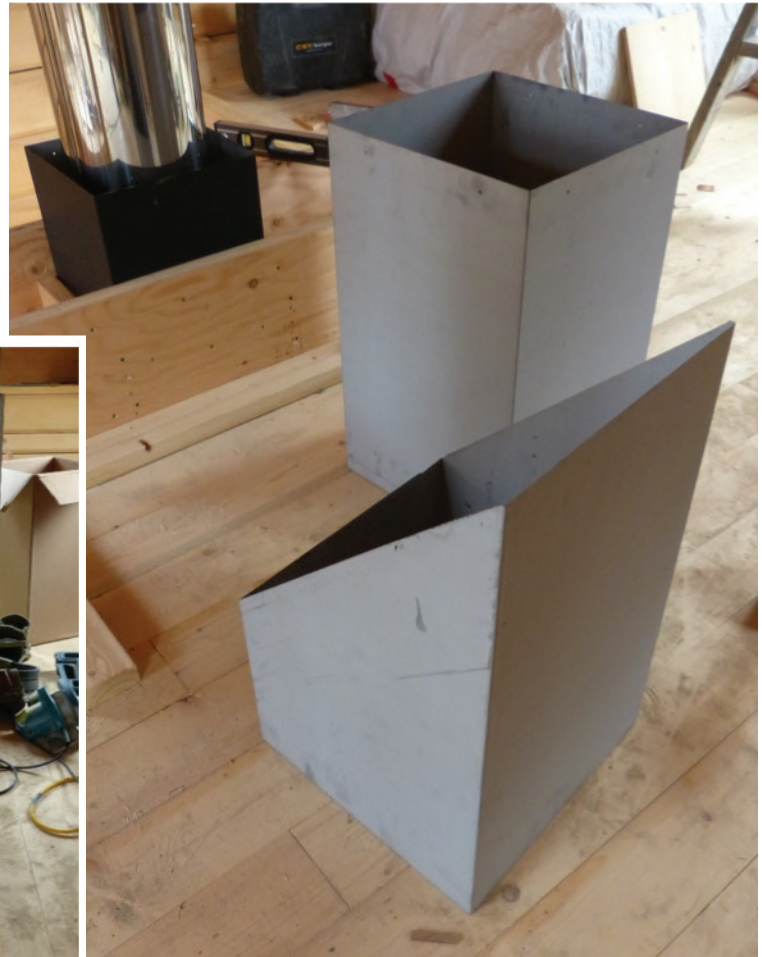
While not necessary in this application, the top end of the Pass-Through Radiation Shield can also be closed off with a square-to-round collar. This prevents insulation or other materials from falling inside the shield. This can come in handy if the shield will terminate within an attic and not penetrating the roof-deck.



The certified instructions for DuraVent's DuraTech® Premium (DTP) and DuraTech Canada (DTC) chimney allows the gap between the firestop and chimney to be sealed. This feature helps to minimize any heat loss into the penetration and areas above.

FACT: Warm air leaking up through such a gap can result in condensation when it comes into contact with colder air.

As the roof is 6/12 pitch, the install team at Theo's used a zip-cut blade to cut the top of the shield at a 45° angle to match the roofline. The opening on the top of the shield will be covered by the roof flashing.



While not shown in any of these photos, the portion of chimney running up through the home's second floor will be surrounded by a sheetrock enclosure, which is required by building code. The enclosure is usually built using standard lumber and drywall. Once complete, the chimney and pass-through shield will not be visible.

Versions of this Pass-Through Radiation Shield are available for use with both DuraTech® Premium (DTP) and DuraTech Canada (DTC) Chimney. Feel free to contact us for additional information.

Our thanks to the Chevalier family and Theo Stad up in the Yukon region for sharing their experience with our chimney products.

We are always looking for photos showing quality installations of our chimney products. Have you got a job you would like to share? Contact us at: marketing@duravent.com

SUPPLEMENTAL INFORMATION

PASS-THROUGH RADIATION SHIELD

While the new Pass-Through Radiation Shield is a better, easier, and more affordable solution, this photo on the right shows how a chimney can pass through a vaulted ceiling using the conventional approach - by constructing an appropriately sized frame and enclosure (aka "chase").

With this approach, you should carefully coordinate with the building contractor to ensure it is incorporated into the truss design from the very start. Trying to do this as part of a renovation project will require good carpentry skills - never cut a truss!

If you are building your own chase, the boxed frame should extend far enough below the ceiling to allow for installation of a firestop in a flat, level position; yet extend through to the roof deck. The inner frame dimensions need to be generous enough to ensure the minimum 2" clearance-to-combustibles to the chimney are maintained from top-to-bottom. Doing this keeps surrounding insulation from coming into direct contact with the chimney. Depending on the appliance, additional measures may be required to include an attic insulation shield (attic radiation shield) within the structure to help minimize heat loss up through the penetration.

Do you have contractors in your area promoting spray-foam insulation? Make sure it's understood that they **MUST** maintain clearances around the chimney. Spray-foam in direct contact presents a potential fire hazard!



Using a Pass-Through Radiation Shield provides an effective factory-solution to keep combustible materials away from the chimney.

If you sell or install factory-built fireplaces and DuraVent, the Pass-Through Radiation Shield should be your go-to solution for penetrating any vaulted ceiling.

The following two photos were submitted from Mitch Poole at Ray's Fireplace in Brandon; a long-time dealer in Manitoba with an excellent reputation. These photos are examples of an installer who built an extended frame and enclosure to pass the chimney up through a sloped ceiling. Mitch was one of many fireplace experts across the country who asked us to create a dedicated factory-solution to address this very need.



As with any type of installation, you will see examples of the **“good, the bad, and... the ugly!”**. Are these photos, shown below, examples of compliant installations? It would be impossible to say without gaining access to inspect the penetration from below, above, and within. You would need to rely on the reputation of the installer to do it right. Then again, if our Pass-Through Radiation Shield is used, you (and your own customers) can be confident.

Photos like these to the right are often featured in training sessions under a caption that reads, **“What Were They Thinking?”**.



For more information and literature, please visit:
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