

TECH TALK

TT-32

November 2006



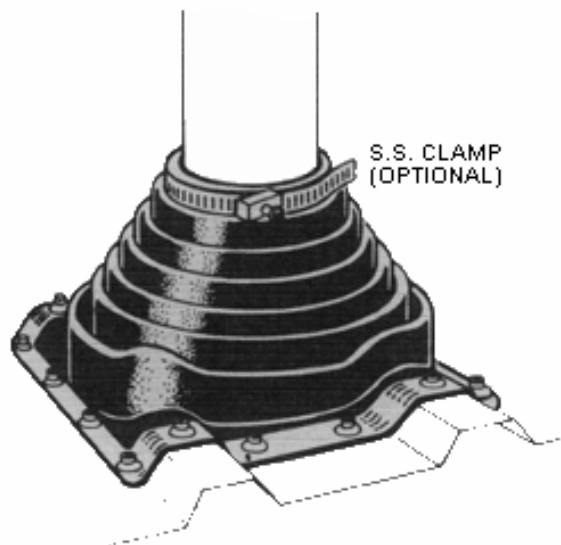
Soft-Cone Flashings for Type B Gas Vent

by Dave Fetters

Often I am asked if it is permissible to use a flexible pipe flashing to seal a roof penetration for our gas vent or chimney systems. The reason for the request is almost always because of “profiled” or metal corrugated roofing and decks. By “flexible pipe flashing” I mean the various brands of flashings that consist of flexible rubber cones attached to dead-soft, formable aluminum compression rings or bases. The rubber cones are usually designed in steps such that a single cone will accommodate several diameters of pipe. The soft aluminum base conforms to most roof panel configurations, if it is screwed down around the perimeter. These products were designed with the plumbing industry in mind, but the

usefulness of the design has caught the eye of the HVAC contractor as well.

There are obvious advantages with using these flashings, and standing metal seam roof decking almost always demands their use. The soft rubber cone will flex for different roof pitches. The aluminum base will easily bend to fit most contours and is then sealed with silicone and fastened tightly to the deck. The EPDM rubber used for the cone will withstand a 212°F constant temperature—more than adequate for B-vent applications. For higher skin temperature resistance, an optional silicon rubber cone is usually available.



So my response is a cautionary “Yes, you may use it.” I immediately qualify my answer with a discussion about some issues that affect performance and acceptance by the building owner or mechanical inspector.

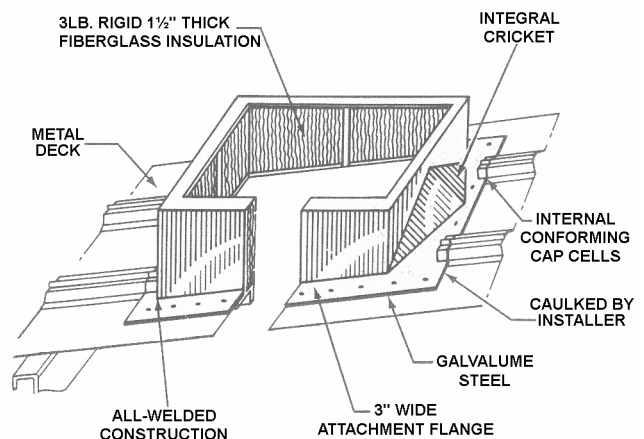
Listing: Foremost is the fact that these flashings are not UL-listed for use with B-vent, and may not be acceptable to the authority having inspection jurisdiction. For the most part, my experience indicates that use with Type B gas vent is almost universally accepted by inspectors. However, these flashings shall not be used with our factory-built chimney system because of our UL-listing and associated performance requirements. I suspect all other chimney manufacturers’ systems have listed flashings that preclude the use of these unlisted flexible flashings.

Sealing: Rubber cones have to be made to fit the pipe diameter by cutting or pulling tear-off rings. A tear-off will have a smoother sealing surface than a cut edge, which affects how well the cone seals to the pipe. The smoother and tighter it is, the better it will seal, since a storm collar is generally not used. However, no matter how well the cone might fit without sealant, water will find its way along the vertical lock seam on B-vent and run down the pipe. I encourage a little dab of silicone at that point to prevent water leakage.

Temperature: As I’ve already indicated, EPDM rubber will withstand the skin temperature of B-vent connected to appropriate appliances without breaking down.

Our testing has shown that a B-vent skin temperature will not exceed about 200°F measured near the appliance when the vent is fired at its maximum input temperature on a continuous basis. Cycling appliances with normally lower flue gas temperatures will not generate this much skin temperature, especially when measured near the termination. Unlisted appliances or those not approved for use with B-vent may easily cause skin temperatures to exceed 212°F, depending on the firing conditions. This will exceed the EPDM rubber maximum temperature.

An option other than using a soft-cone flashing for profiled roofing systems is to build or purchase a custom roof curb with integral cricket, such as the Roof Products & Systems brand from Commercial Products Group in Bensenville, IL (800.624.8642 *phone*). This provides a smooth, flat surface to mount a factory-made flashing.



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