



## Evaluation Report CCMC 14083-R Cobra® Exhaust Vent, Cobra® Ridge Runner® Exhaust Vent, Cobra® Snow Country Advanced™ Exhaust Vent, Cobra® Snow Country™ Exhaust Vent

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### 1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “Cobra® Exhaust Vent, Cobra® Ridge Runner® Exhaust Vent, Cobra® Snow Country Advanced™ Exhaust Vent, and Cobra® Snow Country™ Exhaust Vent,” when used as a natural vent for sloped roofs in accordance with the conditions and limitations stated in Section 3 of this Report, complies with the National Building Code (NBC) of Canada 2015:

- Clause 1.2.1.1.(1)(b) of Division A, as an alternative solution that achieves at least the minimum level of performance required by Division B in the areas defined by the objectives and functional statements attributed to the following applicable acceptable solutions:
  - Article 9.19.1.2., Vent Requirements

This opinion is based on the CCMC evaluation of the technical evidence in Section 4 provided by the Report Holder.

### 2. Description

The products are installed along the ridge of sloped roofs in combination with eave or soffit vents to provide natural ventilation of enclosed roof space.

Cobra® Exhaust Vent for Roof Ridge is a roll-style ridge vent product made from a non-woven matrix of polyester fibres bonded together to form a mat. The product is 19 mm thick for the hand nail version and 16 mm thick for the nail gun version. The product is available in widths of 267 mm or 299 mm and is available in rolls 6.1 m or 15.2 m long. For the hand nail version of the product, 64-mm Smart Nails are included, and 45-mm collated nails are included for the nail gun version.

Cobra® Ridge Runner® Exhaust Vent for Roof Ridge is a rigid roll-style vent made from polypropylene with ventilation openings along the sides of the roll and has a non-woven polymeric filter material. The product is 16 mm thick by 292 mm wide and is available in rolls 6 m long. 45 mm collated nails are included.

Cobra® Snow Country™ Exhaust Vent for Roof Ridge is a rigid panel vent made from polypropylene with ventilation openings along the sides of the panel and has a non-woven fibreglass filter material. The product is 292 mm wide by 1.2 m long and available in thicknesses of 22 mm. The panels interlock with each other to form a continuous ridge vent.

Cobra® Snow Country Advanced™ Exhaust Vent for Roof Ridge is a rigid panel vent made from polypropylene with ventilation openings along the sides and has a non-woven fibreglass filter material. The product is 1.2 m long and is available in thicknesses of 22 mm and widths of 229 mm and 292 mm. The panels interlock with each other to form a continuous ridge vent. 76-mm ring shank nails are included on each vent section.

### 3. Conditions and Limitations

The CCMC compliance opinion in Section 1 is bound by “Cobra® Exhaust Vent, Cobra® Ridge Runner® Exhaust Vent, Cobra® Snow Country Advanced™ Exhaust Vent, and Cobra® Snow Country™ Exhaust Vent,” being used in accordance with the conditions and limitations set out below:

- The ridge vent alone may not provide the minimum unobstructed vent area. In such cases, the total unobstructed vent area must not be less than 1/300 of the insulated ceiling area in accordance with Sentence 9.19.1.2.(1) of Division B of the NBC 2015;
- The products must be used in conjunction with venting located at a point lower than the product within the vented space;
- The products are not intended to be used with gable-end louvres, turbines, roof vents or power vents;
- The distribution of the venting must be in accordance with Sentence 9.19.1.2.(3) of Division B of the NBC 2015;
- The minimum roof slope for Cobra® Exhaust Vent for Roof Ridge 1 in 6;
- The minimum roof slope for Cobra® Ridge Runner® Exhaust Vent, Cobra® Snow Country™ Exhaust Vent, and Cobra® Snow Country Advanced™ Exhaust Vent for Roof Ridge is 1 in 4;
- Truss lateral braces at the ridge must not interfere with the free opening of the feeder slot of the ridge vent;
- The products must not be installed on roof hips;
- The use of the products is limited to combustible construction;
- When used on semi-detached houses where the separating firewalls run perpendicular to the ridge, the feeder slot of the ridge vent must end at least 910 mm from either side of the firewall;
- Annual inspection and maintenance to remove debris from vents is recommended;
- The products must be installed in accordance with the manufacturer’s installation instructions;
- When designing for overall required venting, a reduction factor, such as 50%, should be applied to the measured effective venting area of the ridge vent;
- The product packaging must be clearly identified with the phrase “CCMC 14083-R.” The CCMC Evaluation Listing is required to be on-site for verification that the product being installed is CCMC-certified and listed in CCMC 14083-R.

### 4. Technical Evidence

The Report Holder has submitted technical documentation for the CCMC evaluation. Testing was conducted at laboratories recognized by CCMC. The corresponding technical evidence for this product is summarized below.

#### 4.1 Performance Requirements

**Table 4.1.1 Results of Testing the Effective Venting Area of the Products**

Property	Unit	Result					
		Cobra® Exhaust Vent		Cobra® Ridge Runner® Exhaust Vent	Cobra® Snow Country Advanced™ Exhaust Vent		Cobra® Snow Country™ Exhaust Vent
Width	mm	267	299	292	229	292	292
Effective venting Area	m <sup>2</sup>	0.0085	0.0068	0.0114	0.0191	0.0199	0.0191

**Table 4.1.2 Results of Testing the Performance of the Products**

Property		Requirement	Result		
			Cobra® Exhaust Vent	Cobra® Ridge Runner® Exhaust Vent	Cobra® Snow Country™ Exhaust Vent
Traffic load	900 N over 125 mm × 125 mm	No crack, split, shatter or tear	Pass	Pass	-
Wind uplift	40 cycles of 0 to 600 Pa	No damage	Pass	Pass	Pass
	70 cycles of 0 to 1 200 Pa				
	20 cycles of 0 to 1 800 Pa				
	20 cycles of 0 to 2 500 Pa				

**Table 4.1.2 Results of Testing the Performance of the Products (cont.)**

Property		Requirement	Result		
			Cobra® Exhaust Vent	Cobra® Ridge Runner® Exhaust Vent	Cobra® Snow Country™ Exhaust Vent
Watertightness	80 km/h @ 15 mins	No water penetration	Pass	Pass	Pass
	0 km/h @ 5 mins				
	100 km/h @ 15 mins				
	0 km/h @ 5 mins				
	120 km/h @ 15 min				
	0 km/h @ 5 mins				
	140 km/h @ 15 min				
	0 km/h @ 5 mins				
	170 km/h @ 15 min				
	0 km/h @ 5 mins				

## 4.2 Material Physical Properties

**Table 4.2.1 Physical Properties of the Roll-Style Ridge Vent**

Property	Unit	Requirement	Result
Thickness	mm	≤ 5% from nominal as stated by the manufacturer	Pass
Width		≤ 1% from nominal as stated by the manufacturer	Pass
Mass per unit area	kg/m <sup>2</sup>	Report nominal value	1.01

**Table 4.2.2 Physical Properties of the Rigid Plastic Ridge Vent**

Property	Unit	Requirement	Result	
Thickness of liner or shell	mm	≤ 5% from nominal as stated by the manufacturer	Pass	
Overall height			Pass	
Width			Pass	
Length			Pass	
Density	kg/m <sup>3</sup>	≥ 905	906	
Tensile strength (yield)	MPa	≥ 19	10.4 <sup>(1)</sup>	
Izod impact resistance at 23°C	J/m	≥ 70	254.4	
Coefficient of linear expansion	µm/(m·°C)	< 150	84.8	
Classification	deflection temperature under load	°C	Report value	82.7 @ 0.455 Mpa
	melt flow rate	g/10 mins	Report value	26.2

**Note to Table 4.2.2:**

- (1) Deemed acceptable as the product meets the performance requirements and retains more of its tensile strength after durability aging.

## 4.3 Durability

**Table 4.3.1 Results of Testing the Durability of the Roll-Style Ridge Vent**

Property		Unit	Requirement	Result	
				@ 10% compression	@ 25% compression
Compressive Strength	initial	kPa	Report value	1.92	5.73
	after UV weathering	% retention of original	≥ 90	171	153
	after UV weathering and heat aging		≥ 80	132	122

**Table 4.3.2 Results of Testing the Durability of the Rigid Plastic Ridge Vent**

Property		Unit	Requirement	Result
Dimensional change after heat aging	thickness	% of original	≤ 2	1.8
	height			-0.2
	width			0.5
	length			-0.1
Tensile strength after heat aging		% retention of original	≥ 90	111
Izod impact	after heat aging	% retention of original	≥ 80	121
	after heat aging and UV weathering		≥ 80	135

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