



Evaluation Report CCMC 14016-R INSTA-PANELS®

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1. Opinion

It is the opinion of the Canadian Construction Materials Centre (CCMC) that “INSTA-PANELS®”, when used as a sub-slab thermal insulation in accordance with the conditions and limitations stated in Section 3 of this Report, complies with the National Building Code 2010:

- Clause 1.2.1.1.(1)(a), Division A, using the following acceptable solutions from Division B:
 - Sentence 9.25.2.2.(3), Insulation Materials (in contact with ground)
- Clause 1.2.1.1.(1)(b), 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:
 - Clause 9.25.2.2.(1)(f), Insulation Materials

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

2. Description

“INSTA-PANELS®” are insulated panels made from face rigid polyurethane foam. The facings are smooth or embossed and made from metal or fibreglass on both sides of the product. The panels are intended for use as a sub-slab insulation that are 44.5-mm (1¾ in.) thick with a weight of 9.7 kg/m² (2 lb./ft.²). The panels are available in the following sizes:

- 508 mm × 1 626 mm (20 in. × 64 in.): Smooth, total area – 0.83 m² (8.9 ft.²)
- 508 mm × 2 032 mm (20 in. × 80 in.): Smooth, total area – 1.03 m² (11.1 ft.²)
- 559 mm × 914 mm (22 in. × 36 in.): Smooth, total area – 0.51 m² (5.5 ft.²)
- 559 mm × 1 626 mm (22 in. × 64 in.): Smooth, total area – 0.91 m² (9.8 ft.²)
- 559 mm × 2 032 mm (22 in. × 80 in.): Smooth, total area – 1.14 m² (12.2 ft.²)

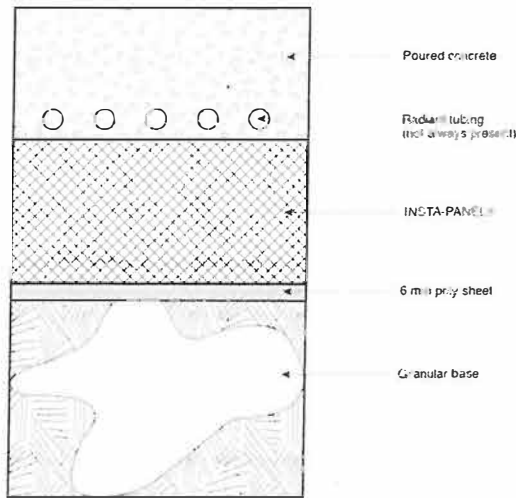


Figure 1. “INSTA-PANELS®”

3. Conditions and Limitations

CCMC’s compliance opinion in Section 1 is bound by the “INSTA-PANELS®” being used in accordance with the conditions and limitations set out below:

- Insulation around concrete slabs-on-ground must be located so that heat from the building is not restricted from reaching the ground beneath the perimeter, where exterior walls are not supported by footings extending below frost level.
- The product must be used in conjunction with an air barrier system conforming to Subsection 9.25.3., Air Barrier Systems, of Division B of NBC 2010.
- Panels are to be affixed on top of a granular base.
- Panels are cut to fit the unfinished floor prior to pouring concrete slab.
- A minimum 75-mm (3-in.) concrete cover must be provided over the panels.
- The product must be installed in accordance with the manufacturer’s installation instructions found at www.instapanel.com.

4. Technical Evidence

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

4.1 Material Requirements

The core material and the facings used for the product meet the General Requirements (Section 5) of CAN/ULC-S704-11, “Standard for Thermal Insulation, Polyurethane and Polyisocyanurate, Boards, Faced.”

4.2 Performance Requirements

The product meets the CCMC Technical Guide for Sub-Slab Thermal Insulation, MasterFormat 07 21 13.07.

Table 4.2.1 Results of Testing the Performance Requirements of the Product

Property		Requirement				Result			
Density		Report value				34.5 kg/m ³ (fibreglass faced)			
						29.7 kg/m ³ (metal faced)			
Thermal resistance (min. per 25 mm)		0.97 m ² ·°C/W				0.99 (fibreglass faced)			
						1.14 (metal faced)			
Water vapour permeance		Report value				3 (ng/(Pa·s·m ²))			
Air permeability		Report value				No measurable airflow through specimen			
Sorption		Report value				0.0264 kg ⁻¹ moisture content at 93% relative humidity (RH)			
Water absorption		< 3.5 (% by volume)				0.49 (% by volume)			
Water absorption coefficient		Report value				0.00045 kg/m ² ·s ^{1/2}			
Dimensional stability, linear change	at -29°C, ambient RH	Length (%)	±2.0	Width (%)	±2.0	Length (%)	-0.02	Width (%)	-0.01
	at 80°C, ambient RH		±2.0		±2.0		-0.06		-0.07
	at 70°C, 97% RH		±2.0		±2.0		-0.05		-0.06
Compressive strength		110 kPa				164.6 (fibreglass faced)			
						144.2 (metal faced)			

Plant(s)

Vaughan, ON
Butler, IN, U.S.A.

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