



ITW Construction Products, 120 Travail Road, Markham, Ontario, Canada L3S 3J1  
O: 1-800-387-9692 F: 800-668-8688  
[www.ramset.ca](http://www.ramset.ca)

Ramset T4 Insulfast System

2020-01-20

**Specifier Notes:**

Ramset T4 Insulfast System is a cost-effective, one step efficient insulation fastening system without the use of adhesives, drilling, or cutting spindle insulation anchors. The System is up to 4 times faster to install thereby reducing costs.

Ramset T4 Insulfast System fastens rigid and semi-rigid board insulation directly to all substrates - concrete, hollow block, and steel studs.

Ramset T4 Insulfast System provides an efficient thermal barrier solution for insulation attachment, 98.5% thermally efficient for all applicable insulation thicknesses.

Ramset T4 Insulfast fastening system is consistent, reliable, and clean-looking,

Ramset T4 Insulfast gas-powered tool has automatic power adjustment, and ability to fasten insulation in tight spaces, around roof penetrations, through pipes and sprinkler systems. Powder actuated tool now available.

Ramset T4 Insulfast System may be used year round, not restricted by cold temperature or wet substrates.

Ramset T4 Insulfast System has an insulation pin capacity between 25 mm – 150 mm (1” – 6”).

Ramset T4 Insulfast System is Made in Canada.

SECTION 07 21 00.01 – BOARD INSULATION FASTENER SYSTEM

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Insulation fastening system for rigid and semi-rigid insulation boards to facilitate an efficient thermal barrier within insulated interior and exterior assemblies.

B. Related Requirements:

1. Section 07 21 13 “Board Insulation”.
2. Section 07 26 00 “Vapour Barriers”
3. Section 07 27 00 “Air Barriers”.

1.02 ACTION SUBMITTALS

A. Product Data:

1. Submit manufacturer’s product data sheets.



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- B. Certificates:
  - 1. Submit product certification letters from independent testing agencies that product complies with specified performance characteristics and for use with specified air and vapour barrier membranes.
- C. Manufacturer's instructions:
  - 1. Submit manufacturer's installation instructions.

### 1.03 QUALITY ASSURANCE

- A. Installer Qualifications:
  - 1. An entity that employs installers and supervisors who are trained to install mechanically attached insulation fasteners.

### 1.04 DELIVERY, STORAGE, AND HANDLING

- A. Comply with manufacturer's written instructions for handling and storing.

## PART 2 - PRODUCTS

### 2.01 MANUFACTURERS

- A. Source Limitations: Obtain insulation fasteners from single source from single manufacturer.

### 2.02 INSULATION FASTENERS PERFORMANCE REQUIREMENTS

- A. Insulation types and thicknesses: Fasteners are suitable for attachments insulation board ranging from 25 mm (1") to 150 mm (6") thicknesses for the following insulation types:
  - 1. Fibreglass.
  - 2. Polyisocyanurate.
  - 3. Polystyrene – Expanded and extruded.
  - 4. Stone wool.
- B. Colour code fasteners to indicate substrate condition types.



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- C. Load test performance; ASTM E1190 - Standard Test Methods for Strength of Power-Actuated Fasteners Installed in Structural Members (in shear and tension):
  - 1. Concrete application: Ultimate load range with concrete strength 25-45Mpa (3600-6500 psi): 0.94 kN (211Lbs).
  - 2. Hollow concrete block application: Ultimate load 0.82 kN (184 Lbs).
  - 3. Steel stud application: Ultimate load range 0.53-1.60 kN (120-360 lbs).
  - 4. Structural steel application: Ultimate load 1.5 kN (1120 Lbs).
  - 5. 12.5 mm (½") 4-ply rated sheathing application: Ultimate load 0.41 kN (93 Lbs).
  
- D. Air and vapour barrier membrane air and water penetration performance:
  - 1. Passes ASTM E2178 - Standard Test Method for Air Permeance of Building Materials.
  - 2. Passes ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
  
- E. Thermal efficiency performance:
  - 1. Greater than 99.42% relative thermal efficiency when tested with 230 mm x 230 mm (9" x 9") stone wool insulation board ranging from 25 mm to 150 mm (1" to 6") thick test specimens and in accordance with the following standards:
    - a. ASTM C1363 – Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus.
    - b. ASTM Standard C1058 - Standard Practice for Selecting Temperatures for Evaluating and Reporting Thermal Properties of Thermal Insulation.
    - c. 2009 ASHRAE Handbook of Fundamentals.



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## 2.03 INSULATION FASTENERS

### A. Insulation fastener:

1. Acceptable product: The Ramset T3 InsulFast or Ramset T4 I-F System as manufactured by ITW Construction Products.
  - a. No substitutions permitted.
2. Product description:
  - a. Fastener:
    - 1) Insulation washer cap: High density polyethylene (HDPE) 60 mm (2-3/8") diameter integrated cap with insulation engagement flanges and point designed to pierce rigid and semi-rigid insulation, engineered curved design limits insulation compression, for full thermal efficiency and aesthetics.
      - a) Washer cap thickness: Refer to insulation fastener chart.
    - 2) Insulation pin: Mechanical zinc plated heat treated carbon steel pins, gas or powder fired direct fasten type.
      - a) Colour code fasteners to suit substrate applications. White fasteners for concrete and CMU applications and black fasteners for steel stud, structural steel, and wood applications.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Use manufacturer's recommended gas or powder powered tool to mechanically fasten insulation to suitable substrate.
- B. Use manufacturer's recommended fastener length to suit insulation board thickness. Follow manufacturer's recommended insulation fasten rates and arrangements.
- C. Spacing:
  1. Install in accordance with insulation manufacturer's recommended spacing and as required to suit project design requirements.
  2. Place not less than 5 equally spaced insulation fasteners (dice 5 pattern) per 610 mm x 1220 mm (24" x 48") insulation board area.
  3. Position fasteners 75 mm (3") from insulation board edges.

END OF SECTION