

I-F FASTENERS

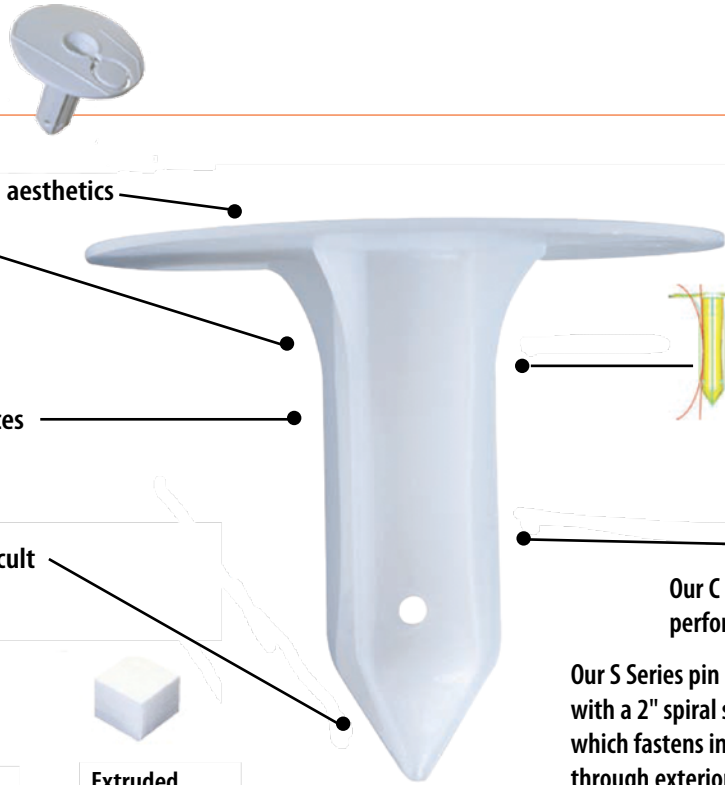
INTEGRATED THERMAL CAP

For improved thermal efficiency and aesthetics

FLANGES to ensure the insulation remains perfectly in place, the insulation panel won't flip around during the fastening process

SPECIALLY SHAPED SHAFT – Reduces friction and force required to insert fastener into insulation

POINT designed to pierce most difficult insulation material with little effort



Engineered curved design limits insulation compression which enables full thermal efficiency

Our C Series pin provides exceptional performance in the hardest concrete.

Our S Series pin is equipped with a 2" spiral steel stud pin which fastens insulation through exterior gypsum sheathing to exterior steel studs in one simple action.



Rockwool / Fiberglass



Expanded Polystyrene



Extruded Polystyrene



The I-F Fastener™ will not spall the hollow block like powder actuated fasteners.



Damaged insulation by wind loads using stick pin fasteners. I-F Fasteners™ eliminate this problem.

FASTENER SPECIFICATIONS

- Pin Material: Heat treated carbon steel
- Pin Finish: Mechanical Zinc Plated
- Washer Material: High Density Polyethylene (HDPE)
- 2-3/8" Holding Diameter
- Made in Canada
- The fastener assembly is clearly branded Ramset along with the length of the fastener assembly



SELECTION CHART

FASTENERS FOR STEEL STUDS

PART NUMBER	DESCRIPTION	INSULATION THICKNESS	BOX QTY
T4IFS-100	1" Insulation Fastener w/fuel	1" (25 mm)	500
T4IFS-112	1-1/2" Insulation Fastener w/fuel	1-1/2" (38 mm)	500
T4IFS-200	2" Insulation Fastener w/fuel	2" (50 mm)	500
T4IFS-212	2-1/2" Insulation Fastener w/fuel	2-1/2" (63 mm)	500
T4IFS-300	3" Insulation Fastener w/fuel	3" (75 mm)	500
T4IFS-312	3-1/2" Insulation Fastener w/fuel	3-1/2" (89 mm)	500
T4IFS-400	4" Insulation Fastener w/fuel	4" (100 mm)	500
T4IFS-500	5" Insulation Fastener w/fuel	5" (125 mm)	500
T4IFS-600	6" Insulation Fastener w/fuel	6" (150 mm)	400

FASTENERS FOR CONCRETE AND CMU

PART NUMBER	DESCRIPTION	INSULATION THICKNESS	BOX QTY
T4IFC-100	1" Insulation Fastener w/fuel	1" (25 mm)	500
T4IFC-112	1-1/2" Insulation Fastener w/fuel	1-1/2" (38 mm)	500
T4IFC-200	2" Insulation Fastener w/fuel	2" (50 mm)	500
T4IFC-212	2-1/2" Insulation Fastener w/fuel	2-1/2" (63 mm)	500
T4IFC-300	3" Insulation Fastener w/fuel	3" (75 mm)	500
T4IFC-312	3-1/2" Insulation Fastener w/fuel	3-1/2" (89 mm)	500
T4IFC-400	4" Insulation Fastener w/fuel	4" (100 mm)	500
T4IFC-412	4-1/2" Insulation Fastener w/fuel	4-1/2" (114 mm)	500
T4IFC-500	5" Insulation Fastener w/fuel	5" (125 mm)	500
T4IFC-600	6" Insulation Fastener w/fuel	6" (150 mm)	400

THERMO BRIDGING

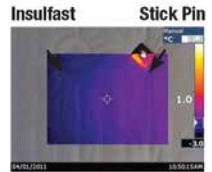
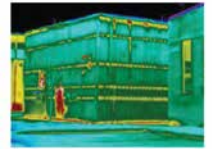
Thermal Performance of Building Envelope Assemblies

In buildings, when insulating material is interrupted by a highly conductive material, thermal bridging takes place. Examples of thermal bridges include steel pins that interrupt the continuity of batt insulation and go through heavily insulated exterior walls. Simply put, thermal bridges occur where differences in material thermal conductivities result in significant lateral heat flow; e.g. heat flowing along the surface of a wall and then flowing through the wall via a steel pin.

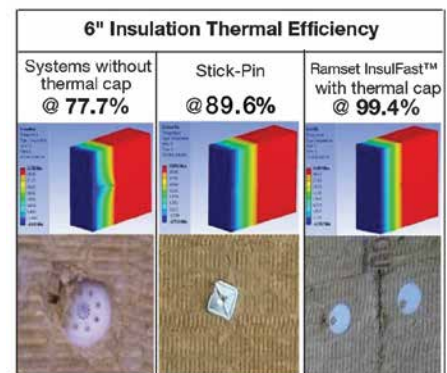
The Calculations performed by the Advanced Thermal/Fluids Optimization, Modeling and Simulation (ATOMS) Laboratory, Department of Mechanical & Industrial Engineering, University of Toronto show that the Ramset T4 I-F is over 99% efficient whereas the stick pins can downgrade the efficiency by more than 10%.

Suggested Specification

The fasteners used to attach Insulation (Rockwool, Expanded Polystyrene and Extruded Polystyrene) into Solid Masonry, Hollow Concrete Block and Steel Studs shall be a Ramset T4 I-F Fastener. The T4 I-F Fastener shall be fastened using the Ramset T4 I-F Gas Tool. The T4 I-F Fastener is made from High Density Polyethylene (HDPE) plastic and has a holding diameter of 2-3/8" (60mm) with the Ramset logo marking.



		Insulation Thickness					
		1 in	2 in	3 in	4 in	5 in	6 in
Reference	U – Factor (W/m ² °C)	1.1786	0.7122	0.5103	0.3976	0.3257	0.2758
	Efficiency (%)	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Stick Pin	U – Factor (W/m ² °C)	1.2422	0.7706	0.5597	0.4397	0.3621	0.3078
	Efficiency (%)	94.88%	92.42%	91.17%	90.43%	89.94%	89.59%
InsulFast™	U – Factor (W/m ² °C)	1.1845	0.7162	0.5132	0.3999	0.3276	0.2773
	Efficiency (%)	99.50%	99.45%	99.44%	99.43%	99.42%	99.42%



These thermal bridges contribute to a multitude of problems, including, but not limited to:

- Added energy use during heating and cooling seasons
- Interior surface condensation which leads to:
 - ° High humidity levels that can lead to unusual concentrations of airborne contaminants and microbial growth
 - ° Rusting issues that can damage the structure