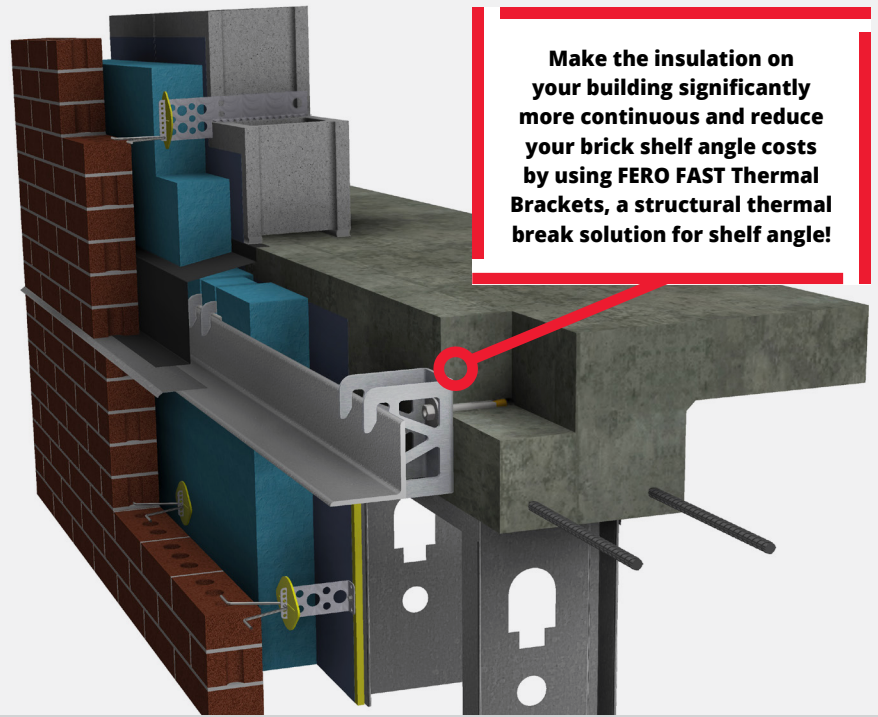




# FAST™ THERMAL BRACKETS

"Thermally-Broken" Masonry  
Shelf Angle Made Easy!



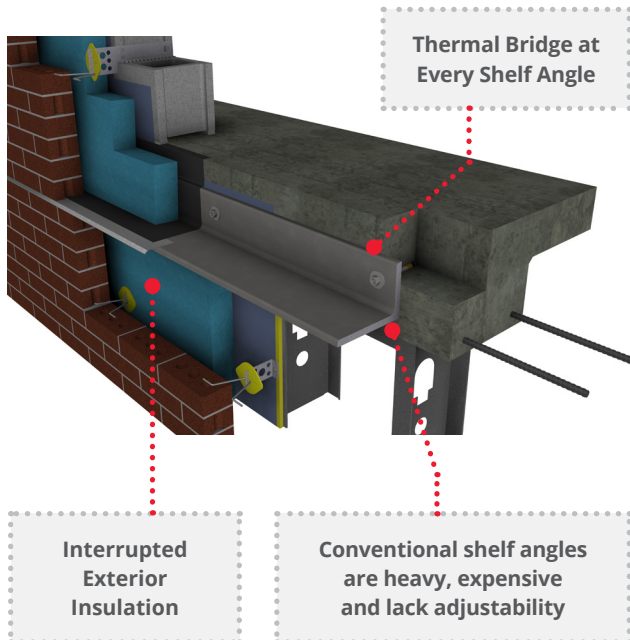
Make the insulation on your building significantly more continuous and reduce your brick shelf angle costs by using FERRO FAST Thermal Brackets, a structural thermal break solution for shelf angle!

## Challenge

Increased focus on energy efficiency in building design has resulted in thicker insulation and increasing wall cavity sizes. For buildings with brick or stone veneer, these large wall cavities require engineers to design shelf angles capable of supporting the heavy veneer at large distances from the structural backing.

Conventional masonry shelf angle designs compromise the effectiveness of exterior insulation, reducing the energy efficiency of the building. Conventional shelf angles are impractical and expensive, especially with thicker insulation and larger wall cavities.

### Conventional Shelf Angles



Thermal Bridge at Every Shelf Angle

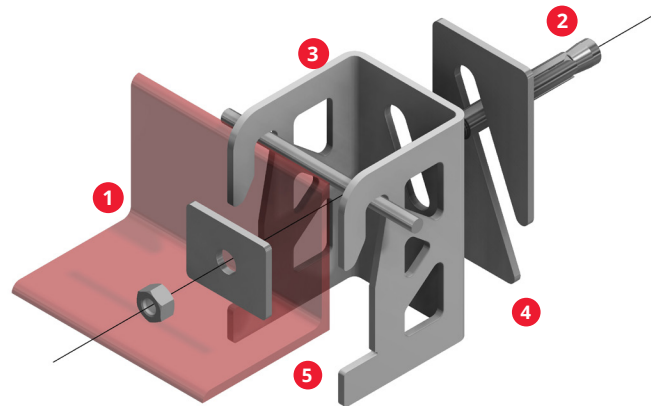
Interrupted Exterior Insulation

Conventional shelf angles are heavy, expensive and lack adjustability

## Solution

The FERRO FAST Thermal Bracket offers the superior alternative to conventional shelf angle assembly.

FAST Thermal Brackets stand-off the shelf angle from the backing, providing a low-cost solution to make masonry shelf angle energy efficient and easy to install.



- 1 **Offsets shelf angle from the backing** to allow for continuous insulation behind the shelf angle, and with FERRO's innovative flange hole pattern the FAST System significantly reduces the negative effects of thermal bridging.
- 2 **Easily anchored to backing** without welding or a need to drill holes in the shelf angle.
- 3 **FAST Thermal Brackets are a structural thermal break, providing superior 'R' value**, avoiding the use of expensive thermal break pads and avoiding associated load capacity, fire resistance and creep considerations.
- 4 **FERRO FAST wall assemblies deliver an R-Value (R16.7)**, within 1% of the insulation R-Value (R16.8). Conventional shelf angles reduce the effectiveness of insulation by 35-60% or more, depending on size of shelf angle.
- 5 **Can be sized for any wall cavity**, creating significant cost savings by eliminating the need for larger, more expensive shelf angles. Larger wall cavities with thicker insulation simply utilize a deeper FERRO Thermal Bracket to span the cavity with a standard sized, economical, shelf angle.

\*Documented by independent testing.

## THE FAST THERMAL BRACKET ADVANTAGE

The shelf angle is structurally supported by FAST Brackets installed only at discrete locations, with the shelf angle spanning horizontally between the brackets. The few penetrations through the insulation by the supporting brackets minimize the area of thermal bridging.

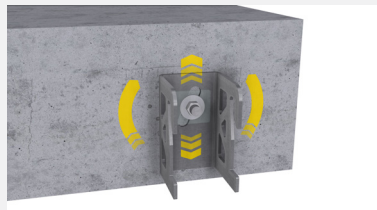
## COMPARE: Why Choose FERRO FAST™ Thermal Brackets Over Conventional Shelf Angles?

By standing off (offsetting) the shelf angle from the backup wall, FERRO FAST Thermal Brackets create a 'thermally-broken' shelf angle providing significant advantages over conventional shelf angle designs and installations.

	CONVENTIONAL SHELF ANGLE	FERRO FAST THERMAL BRACKETS
<b>Energy Efficiency</b>	✗ Direct contact of shelf angle with backing creates a significant thermal bridge and limits effectiveness of insulation by 35–60% or more, depending on size of shelf angle.	✓ The stand-off shelf angle allows for continuous insulation, reduces thermal bridging, and limits effectiveness of insulation by less than 1%.
<b>Wall Assembly R-Value</b>	✗ R10.8 (Insulation R-Value 16.8)	✓ R16.7 (insulation R-Value of 16.8)
<b>Cost</b>	✗ Complex installation and more expensive shelf angle result in higher overall costs.	✓ Ease of installation by a single trade and lower shelf angle costs reduce average cost by over <b>60%</b> .
<b>Adjustability</b>	✗ Direct anchoring to backing results in limited adjustability.	✓ Fully adjustable horizontally and vertically.
<b>Ease of Installation</b>	✗ Requires multiple trades to install.	✓ Can be quickly installed by a single trade.
<b>Effectiveness with Thicker Insulation and Larger Wall Cavities</b>	✗ Requires large, expensive and hard-to-install shelf angle.	✓ FAST Thermal Brackets can accommodate any cavity size, and because the FAST Thermal Bracket itself spans the cavity, it utilizes a much smaller (and more cost effective) shelf angle.
<b>Thermal Break</b>	✗ "Thermal break pads" behind conventional shelf angle are limited in ability to span wall cavities, do not allow for typical insulation behind the shelf angle, are expensive, and are not a structural thermal break.	✓ FAST Brackets are a structural thermal break providing superior R-Value without the use of expensive, load compromising thermal break pads.

### Vertical Adjustability

The slot on the back of the FAST Thermal Bracket allows up to 1-3/4" of vertical adjustment.



### Horizontal Adjustability

Up to two FERRO FAST Shim Plates can be used to adjust the FAST Thermal Bracket horizontally outward from the backing.



## THE FAST THERMAL BRACKET COST ADVANTAGE

As the FAST Thermal Brackets allow the use of standard shelf angle size regardless of the size of the wall cavity. Reducing the size and weight of the shelf angle provides dramatic savings in materials and installation costs.

## WHY WORK WITH FERRO:

- ✓ **Technical Expertise and Proven Reliability** We are structural engineers specializing in innovative connection solutions, with a focus on masonry. We bring the experience of over 1,200 projects utilizing FAST Thermal Brackets to make shelf angle design smart and effective, improving the energy efficiency of buildings and reducing construction costs.
- ✓ **Ease of Design** FERRO provides easy-to-access CAD files ready to drop into your design, with dedicated expert engineering support and drawings can be provided signed and sealed in the projects jurisdiction.

Talk to our sales team for any other inquiries.

☎ 780.455.5098 or Toll Free 1.877.703.4463

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