

# Thermal break frames

## FT Series



### About the product

FT frames are separated at the stop by a durable polymer extrusion that serves as a thermal break.

FT Series 3-sided frames are designed to meet requirements for light to maximum duty applications in both commercial and institutional buildings. Although the most common use is exterior masonry opening, these frames are installed in both interior and exterior locations, and in virtually all types of buildings and wall constructions. These frames are to be installed as part of the wall framing sequence. They can be specified and supplied as KD (knock-down) for field assembly prior to installation or welded for installation as a complete unit.

### Installation

1. Installation shall conform to the published Steelcraft installation instructions, ANSI A250.11-2012 *Recommended Erection Instructions for Steel Frames and HMMA 840*.
2. Care should be taken throughout the installation process to maintain the thermal break designed into anchors and reinforcements.

### Application

FT Series frames are best used for energy cost savings on exterior openings or interiors where temperature control is desired between locations. They are typically installed in wall construction types as defined in the table below

### Features and benefits

Steelcraft FT (Frame Thermal) Series frames offer the following unique features, which enhance long term functionality and durability:

1. **Thermal Break:** By separating the frame along the stop, the transfer of exterior heat or cold into your building is reduced. FT frames provide 95% better resistance to thermal conductivity over non-thermal break frames.
  - Lower thermal costs and improved comfort
  - Jamb and Head components are each factory assembled, with 3-sided frames supplied KD or Face welded
  - Uses Galvannealed A-60 steel
  - Frame and weld-in anchors are specially designed to achieve a true thermal break
2. **FT thermal separator:** This durable polymer extrusion provides a more secure barrier over time and is more durable in freezing conditions compared to traditional vinyl separators.
3. **Die-mitered corner connections:** Die-mitered corner connection at the head and jamb insure an attractive, tight and closed mitered connection. The miter includes 4 corner tabs designed with concealed connection eliminating the need for continuous profile welding.
4. **Patented universal hinge preparations** allow for easy field conversion from standard weight .134" (3.3 mm) thick hinges to heavy weight .180" (4.7 mm) hinges.
5. **Factory applied baked on rust inhibiting primer** in accordance with ANSI A250.10-2011.

### Specification compliance

1. Frames tested to ASTM C1363 for Thermal Performance, with a U-factor of 0.45. Zero 525 Rabbetted Aluminum Thermal Break Threshold was used in this test. See "Anchoring and installation notes" for options.
2. Overall frame construction for the Steelcraft FT Series frames meets the requirements of ANSI A250.8-2014.
3. Hardware preparations and reinforcements are in accordance with ANSI A250.6-2003 (R2009). Locations are in accordance with ANSI/BHMA.
4. FT frames are not fire-rated.

| Frame applications |                            |                    |   |
|--------------------|----------------------------|--------------------|---|
| Profile            | Steel thickness            | Wall construction  | Typical wall anchors                        |
| FT16               | 16 Gauge [0.053" (1.3 mm)] | Wood or steel stud | Weld-in nailing strap anchors               |
| FT16               | 16 Gauge [0.053" (1.3 mm)] | Masonry            | Wire masonry                                |
| FT16               | 16 Gauge [0.053" (1.3 mm)] | Existing masonry   | Weld-in FT EMAs bolted through both rabbets |
| FT14               | 14 Gauge [0.067" (1.7 mm)] | Wood or steel stud | Weld-in nailing strap anchors               |
| FT14               | 14 Gauge [0.067" (1.7 mm)] | Masonry            | Wire masonry                                |
| FT14               | 14 Gauge [0.067" (1.7 mm)] | Existing masonry   | Weld-in FT EMAs bolted through both rabbets |

**FT Thermal separator**

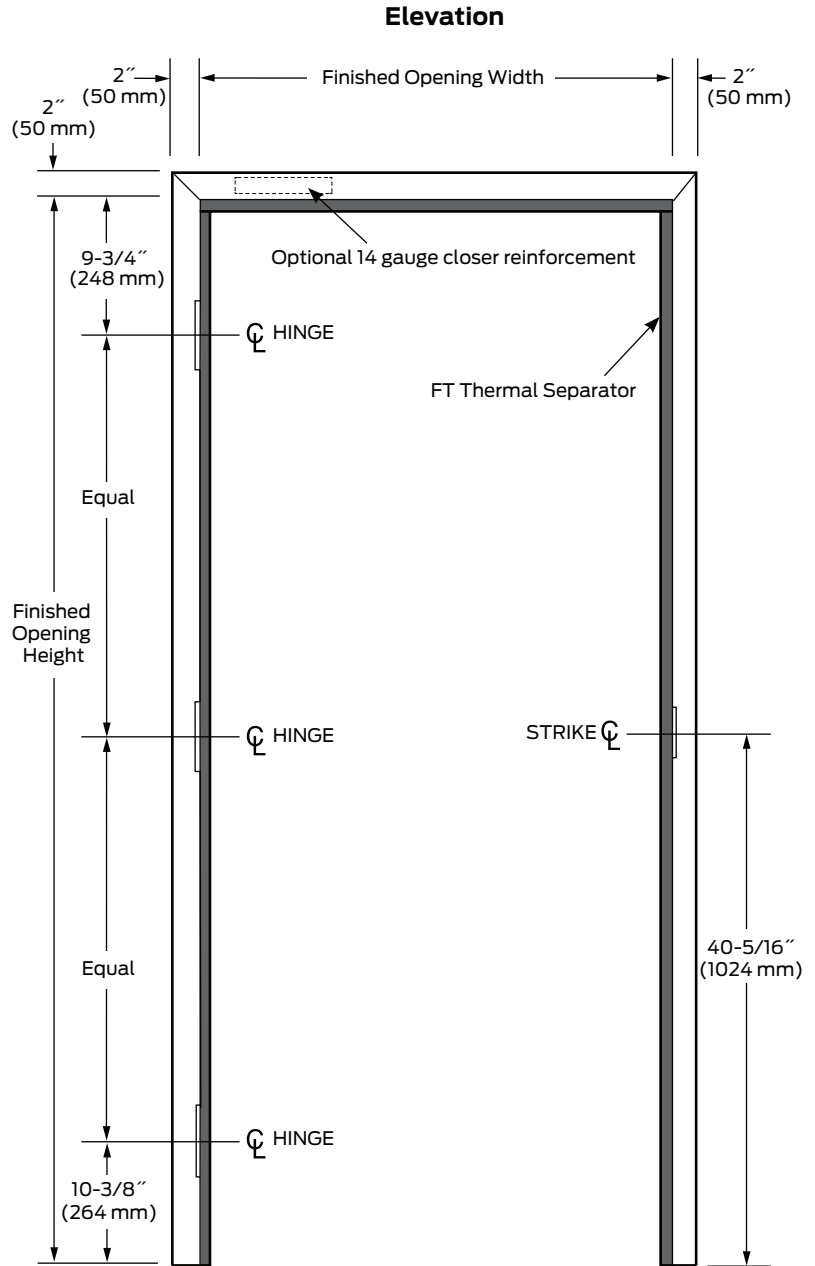
Separates the door side and the non-door side of the frame. The 3-pieces are joined with screws as shown.

- While our separator is durable, care should be taken in transporting and handling until frame is installed, especially with longer components and wider jamb depths.
- Do not stack welded frames in storage or in transport
- Do not weld on or near separator
- Separator material is not paintable

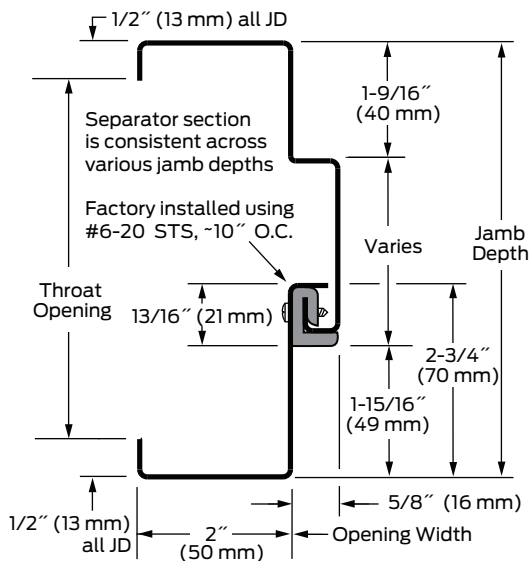
**Hardware interference**

Specific hardware preps can be reviewed by Steelcraft Engineering upon request. Installation may be limited; it is best to avoid attaching to the soffits. If unavoidable, review the drawing and dimensions above and become familiar, taking special care when drilling or attaching to this area. Steelcraft is not responsible for issues caused by modification, reinforcement or hardware installation outside of the factory.

FT Thermal Break frames must maintain the thermal separation between the door side and the non-door side of the frame.



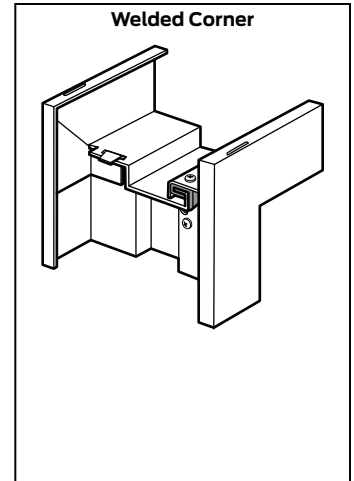
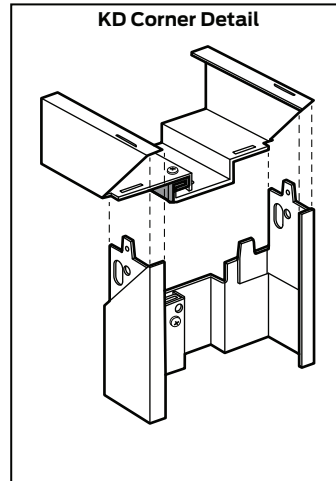
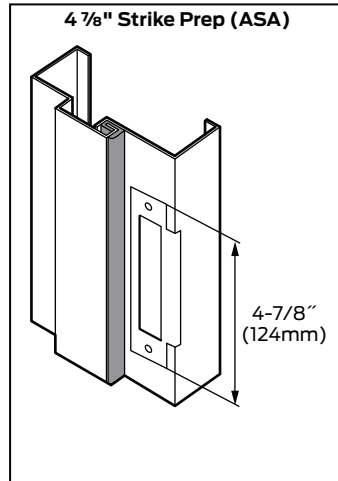
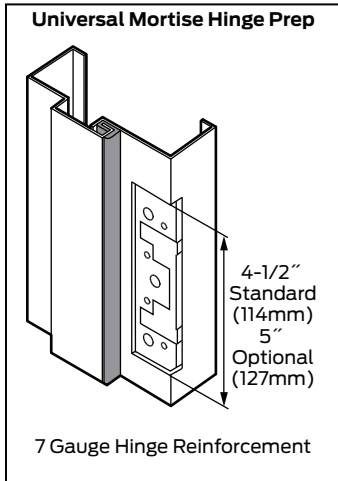
**Standard Double Rabbet Frame**  
(factory assembled components)



**Frame sizing options**

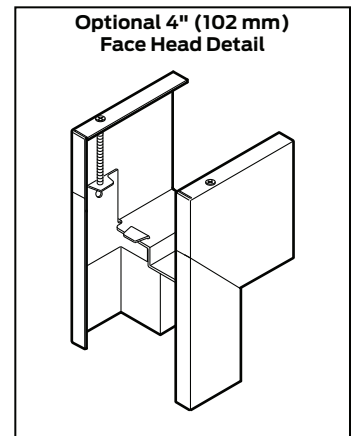
| Series | Opening size ranges                                       |  | Jamb depth availability (profile) |                  | Standard profile dimensions (variations available) |              |              | Corners   |
|--------|---|--|-----------------------------------|------------------|--|--------------|--------------|---|
|        | Single  | Pair   | Equal or unequal double rabbet    |                  | Face   | Stop         | Return       | Standard  |
|        |   |  | Minimum                           | Maximum          |  |              |              |   |
| FT16   | 1' 6"x6' 8" thru<br>4' 0"x8' 0" (457 mm x<br>2032 mm thru | 4' 0"x6' 8" thru<br>8' 0"x8' 0" (1219 mm<br>x 2032 mm thru | 5 3/4" (146 mm)                   | 12 3/4" (324 mm) | 2" (50 mm)   | 5/8" (16 mm) | 1/2" (13 mm) | DIE MITERED with four (4) concealed tabs interlocking head and jams |
| FT14   | 1219 mm x 2438 mm)  | 2438 mm x 2438 mm)   |                                   |                  |  |              |              |   |

Specialty products • Thermal break frames

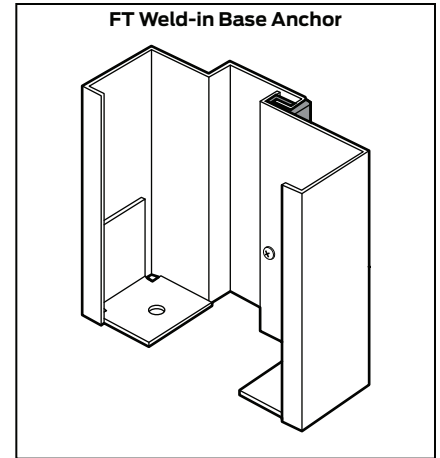
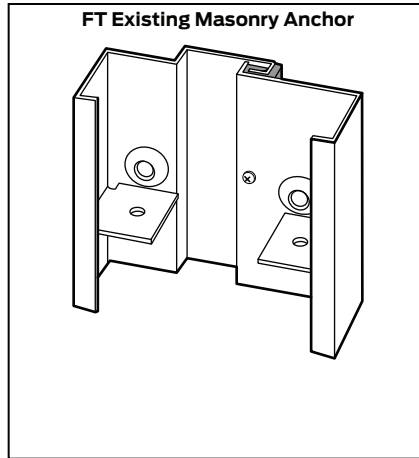
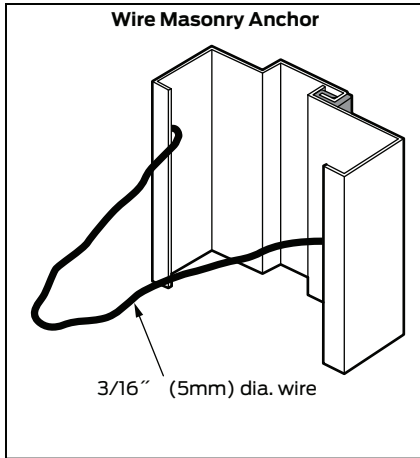


**General notes**

1. Variations in jamb depths available in 1/8" (3 mm) increments.
2. FT Series frames are to be installed as part of the wall framing sequence.
3. Available in Galvannealed A-60 steel only.
4. For KD Corners, tabs in rabbeted area should be bent outward, not inward, during assembly.
5. FT frames are face welded only (backwelding and full profile can damage separator).
6. FT Series frames with optional 4" heads are mainly used in masonry applications when 2" face heads do not match course blocking. Note separator is not shown (hidden) in this illustration of the 4" head.



| Frame options |  |  |  |  |
|---------------|--|--|--|--|
| Series        | Frame profile                                      | Corner connections   |  | 4" (102 mm) heads  |
|               |  | KD (Knock-down)  | SUA (Set-up & weld)  |  |
|               | Double rabbet                                      | Double rabbet  | Double rabbet  |  |
| <b>FT16</b>   | Typical for walls 4 3/4" (121 mm) thick or greater | 4 interlocking corner tabs per factory die-miter. See the "KD Corner Detail" | Available when specified, and in accordance with ANSI A250.8-2014 (SDI 100). | Die-mitered for use with 2" (51 mm) face double rabbet jambs. Available when specified for KD or SUA applications. |
| <b>FT14</b>   | (single rabbet not available)                      |  |  |  |



**Anchoring and installation notes**

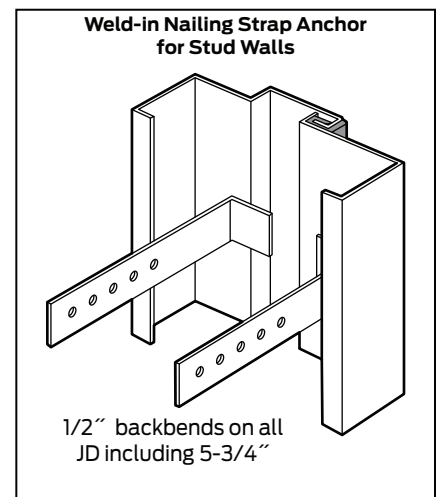
- FT Series commercial and Institutional frames** are specially designed to maintain thermal break functionality as well as for maximum wall/frame engagement and installation flexibility.
  - FT frames supplied standard with weld-in base anchors (n/a when using EMA)
  - Any jamb anchors needed for FT Series frames must be specified in the order
  - All except wire are weld-in only
  - Anchor options:
    - New masonry (wire anchors)
    - Existing masonry wall (FT EMA anchors)
    - Stud wall (nailing strap jamb anchors)
  - Any additional field anchoring must take care to maintain the thermal break or use non-metallic materials with low thermal conductivity (e.g. wood)

*FT anchors unique and not shown in the typical "Frames: Anchoring systems" section of manual.*

- To achieve rating provided**, use with Zero 525 Rabbetted Aluminum Thermal Break Threshold or similar.
- For additional thermal benefits**, use with Steelcraft Polystyrene or Polyurethane insulated doors, insulate frame, and add Zero products:
  - Zero Thermal break threshold options: 624, 625, 626, 724, 8724, 726, or 8726
    - For recessed applications use 722, 723, 729, 8729, or 8730
  - Zero PSA self-adhesive gasketing: 188, 488, or other
    - Apply to separator stop above 50°F (70°-100°F ideal). Allow 72 hrs to set prior to use or conditions (min 24hrs, depending on application temperature).

Refer to "Zero International Catalog" for additional options at <http://www.zerointernational.com/catalogcadlibrary.aspx>

- Installation Caution Notice: Grouted frames:** Grouted frames are not recommended as this increases thermal transmission.



| Framing applications |                           |               |                 |                              |                        |                         |                                       |
|----------------------|---------------------------|---------------|-----------------|------------------------------|------------------------|-------------------------|---------------------------------------|
| Series               | Steel type                | Building type | Opening         | Usage frequency <sup>1</sup> | KD <sup>3</sup> Corner | SUA <sup>4</sup> Corner | Applications                          |
| FT16                 | Galvannealed <sup>2</sup> | Commercial    | Interior        | Heavy to extra heavy duty    | ✓                      | ✓                       | Typical building conditions           |
|                      |                           |               | Mainly Exterior |                              |                        |                         | High humidity and/or weather exposure |
| FT14                 | Galvannealed <sup>2</sup> | Commercial    | Interior        | Extra heavy to maximum duty  | ✓                      | ✓                       | Typical building conditions           |
|                      |                           |               | Mainly Exterior |                              |                        |                         | High humidity and/or weather exposure |

1 Usage frequency is based on ANSI A250.8-2014 (SDI 100)      4 Set-up and Welded for installation as a pre-welded unit  
 2 Reinforcements for galvannealed frames are also galvannealed  
 3 Knock-Down for field assembly prior to installation