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GENERAL DOOR INFORMATION:

Steelcraft full flush doors are designed for virtually all construction requirements in commercial building applications. Their construction, durability and flexibility have been proven throughout the world in both operation and physical testing of all types.

FULL FLUSH DOOR CONSTRUCTION

- **Laminated (L and SL):**
Honeycomb core doors are designed for installation in all types of building construction, for both interior and exterior applications. The continuously bonded cores and full height mechanically interlocked edge seams provide attractive, flat and very durable doors to the commercial construction industry. Many options are available in this product series including edge construction, GrainTech® wood grain embossment, core variations.
- **Steel Stiffened (B Series):**
These internally steel stiffened core doors are designed for installation in all types of building construction, for both interior and exterior applications. The internal steel stiffeners are welded to the face sheets. The full height mechanically interlocked edge seams provide attractive and very durable doors to the commercial construction industry. Edge construction options are available.
- **Embossed (CE Series):**
The 6 and 8 panel embossed doors, with a polystyrene core, are designed for installation in all types of building construction for both interior and exterior applications. The crisp and deeply embossed panels create the appearance of hand carved doors. The continuously bonded cores and full height mechanically interlocked edge seams provide attractive, flat and very durable doors to the commercial construction industry.
- **Temperature Rise (T Series):** T Series doors are equipped with a mineral core and are designed for use in locations requiring a temperature rise rating. The use of this door series is usually dictated by the local building code. Steelcraft T Series doors carry a 250° F (121° C) temperature rise Listing. Edge construction options are available.

STILE AND RAIL:

The **A Series** doors are specifically designed for entrances and applications requiring full glass designs. They are an attractive and very durable alternative to both aluminum entrance doors and full flush steel doors prepared for large installed lights.

SIZES AND PERFORMANCE

All doors are manufactured and supplied to meet the dimensional standards and performance levels as published in ANSI A250.8-2003 (SDI 100).

Special size products are available to meet the unique construction, performance and aesthetic requirements of the architectural community. Contact Steelcraft for those requirements.

USAGE AND APPLICATION

To help simplify the use, selection and specification of Steelcraft door products, the following guidelines for base material selection can be used:

Material Gage – the following base material thickness values were taken from the Underwriters Laboratories, Inc. publication for gage number and equivalent thickness and describe the sheet steel products available from Steelcraft:

- **20 Gage [0.032" (0.8mm)]** for Light Commercial applications with minimal use and abuse.
- **18 Gage [0.042" (1.0mm)]** for Heavy Commercial and Institutional applications with high use.
- **16 Gage [0.053" (1.3mm)]** for Extra Heavy Commercial and Institutional applications having the potential of very high use.
- **14 Gage [0.067" (1.7mm)]** for Extra Heavy Commercial and Institutional applications with extremely high use.

Material Selection – in addition to the thickness of base material, the following base material types of metal are available from Steelcraft:

- **Cold Rolled Steel (CRS)** – conforming to ASTM A1008 and ASTM A568 recommended for interior opening with normal humidity exposure.
- **Hot-Dip Galvannealed Steel** – conforming to ASTM A924 and ASTM A653 recommended for exterior opening or interior openings with high humidity.

NOTE: For recommendations on material and door types, refer to the product specification charts located in the **Selection and Usage Section** of this manual.

INSTALLATION

Installation of all Steelcraft frames and doors shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) *Recommended Erection Instructions for Steel Frames and HMMA 840*.

All Fire Rated doors must be installed and maintained in accordance with the National Fire Protection Association Pamphlet 80, and/or the local *Authority Having Jurisdiction*.

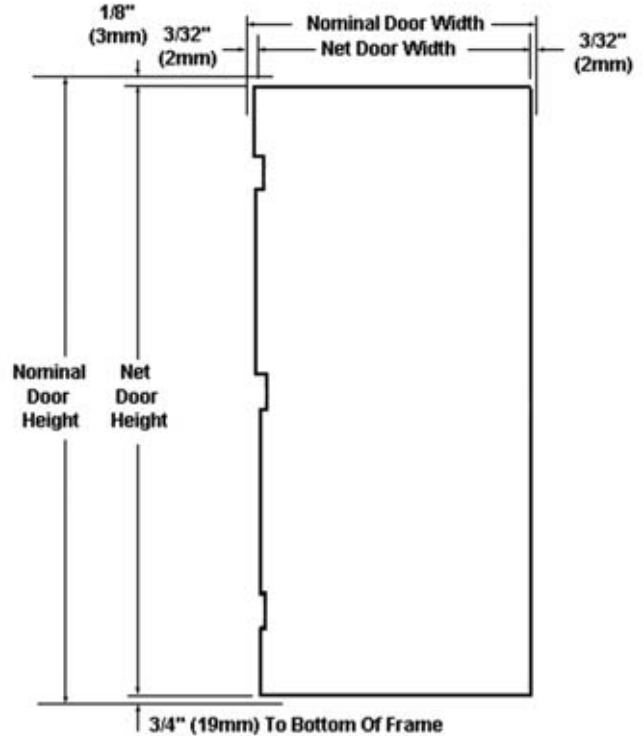
JOB SITE STORAGE:

Store doors under cover, in a dry area and in an upright position. All ferrous metal products should be stored where they will not be exposed to, or come in contact with water. This is particularly true of products such as doors, which have large flat surfaces on which water may collect if they are stacked horizontally. Only use vented plastic or canvas. The use of no-vented materials, create a humidity chamber, which promotes blistering and corrosion.

Place no more than 5 doors in a group, with all material on planking or blocking at least 4 in. (100 mm) off the ground, 2 in. (50 mm) off a paved area or the floor slab. Provide a least 1/4 in. (6.4 mm) space (wood strip) between all units to permit air circulation.

CONSTRUCTION NOTES:

1. **Doors** are 1-3/4" (45mm) thick.
2. **Hardware Preparations:** to meet specifications, doors can be prepared for all commercial mortised hardware, and can be factory reinforced for surface applied hardware applications.
3. **Top and bottom edges** of all doors are closed with 14 gage [0.067" (1.7mm)] welded channels. Exterior applications require the addition of top caps to protect against weather infiltration.
4. **Optional edge seams** are prepared prior to the application of factory, baked-on primer paint.
5. **Standard hardware preparations**, mortised and reinforced for the following:
 - **Universal Hinge Preps:** 4-1/2" (114mm) patented preparation which allows for easy and quick field conversion from standard weight .134" (3.3mm) to heavy weight .180" (4.5mm) hinges.
 - **Locks:** a multitude of standard lock preps are available. The most commonly used with a 4-7/8" (124mm) strike are 161, 61L and 86.
6. **Glass Lights with Designer® Trim:** for doors with glazed cutouts, see the **Lights and Lovers Section 4** of this Manual.
7. **Louvers:** for doors with attached louvers, see the **Lights and Lovers Section 4** of this Manual.



SINGLE DOOR APPLICATION:

Standard Operating Clearances (Installed in frame)

- Top (at the Head) = 1/8" (3mm) to bottom of head or transom panel;
- Hinge Side = 3/32" (2mm) to rabbet or jamb;
- Lock Side = 3/32" (2mm) to rabbet or jamb;
- Bottom (at the Floor) = 3/4" (19mm) to bottom of frame.

DOUBLE DOOR APPLICATION:

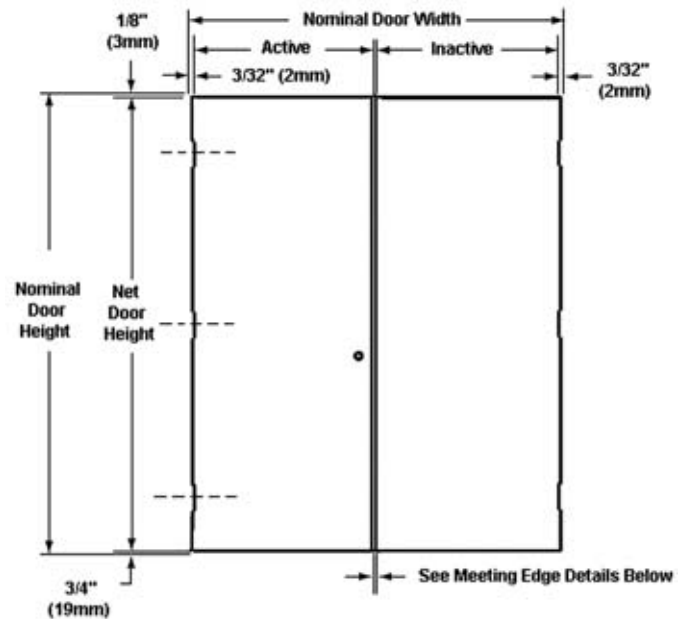
Both leaves of double door elevations employ the same construction features as single swing and could include an optional overlapping astragal.

Meeting Edges

- A 14 gage [0.067" (1.7mm)] "Z" astragal is furnished loose for installation in the field by others.
- Overlapping astragal kits are available to convert an active leaf to an inactive leaf.
- When an astragal is not used, the width of the inactive leaf is increased $3/32"$ (2mm) when specified.

Refer to section 3.3 for all standard astragal applications

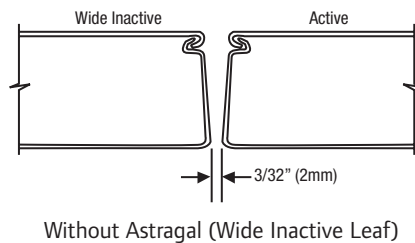
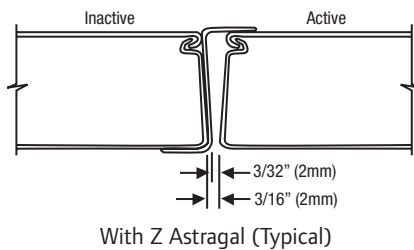
Hardware Preparations: the inactive leaf can be prepared for hardware as specified.

**Standard Operating Clearances** (installed in frame)

- Head = $1/8"$ (3mm) to bottom of head or transom panel.
- Hinge Side = $3/32"$ (2mm) to rabbet on jamb.
- Meeting Edges = $3/32"$ (2mm) with or without astragal.
- For openings without an astragal, a wide inactive leaf is used.
- Bottom = $3/4"$ (19mm) to bottom of frame.

MEETING EDGE DETAILS:

Refer to section 3.3 for all standard astragal applications





ABOUT THE PRODUCT:

The L20, L18 and L16 Series Flush Doors are designed to meet the architectural requirements for full flush doors. The L14 Series Flush Doors are designed to meet the architectural requirements for maximum duty full flush doors. Refer to Section 11 (Architectural) for specifications and the selection and usage guide of the appropriate door constructions.

This premium door construction combines the strength and dimensional stability of steel with the structural integrity of the laminate core. The continuous bonding of core to steel face sheets provides an attractive, flat door, free of face welding marks. Tests have proven that the L Series Door has high resistance to impact damage, low thermal conductivity and high STC ratings.

To meet application, specification and performance requirements, the L Series Door offers a wide range of specifiable options including sizes, glass light designs and hardware (mechanical, pneumatic, electrical) preparations.

L-Series Doors are 1-3/4" (45mm) thick.

INSTALLATION:

1. Installation shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) *Recommended Erection Instructions for Steel Frames and HMMMA 840s*.
2. Fire Rated Assemblies must be in accordance with NFPA Pamphlet 80. The *Authority Having Jurisdiction* is the final authority on issues related to the installation and use of installed Fire Rated Doors.

FEATURES AND BENEFITS:

Steelcraft's L Series Doors offer the following standard unique features, which enhance long term performance and durability:

1. **Core Systems** that enhance the structural integrity of the door:
 - **Honeycomb (standard)** – 1" (25mm) cell kraft honeycomb configuration that increases structural integrity while reducing overall weight
 - **Polystyrene (optional)** – enhanced thermal performance
 - **Polyurethane (optional)** – extreme thermal performance
2. **Full Height, Epoxy Filled Mechanical Interlock Edges** provide structural support and stability the full height of the door edges. Available edge options:
 - **Visible Edge Seam** (standard) – full height, epoxy filled mechanical Interlocked edges
 - **Filled Seam** – optional edge seam epoxy filled and finished smooth. Includes tack welds above and below edge cutouts for hinges, locks, etc.
 - **Welded Edge Seam** – optional edge seam welded with 1" (25mm) long weld, 6" (51mm) on center, epoxy filled between welds and finished smooth; available on L18, L16 and L14 doors.
3. **Universal Hinge Preparations** (patented) allow for easy field conversion from standard weight .134" (3.3mm) hinges to heavy weight .180" (4.7mm) hinges.
4. **14 Gage [0.067" (1.7mm)] Inverted Top and Bottom Channels** provide stability and protection for the top and bottom edges from abuse.
5. **Beveled Hinge and Lock Edges** allow for tighter installation tolerances, ensure easier operation and eliminate binding and sticking.
6. **Recessed Designer™ Glass Trim** provides a clean, neat and flush finish with the door surface.
7. **Factory Applied Baked-On Rust Inhibiting Primer** paint in accordance with ANSI A250.10-1998.

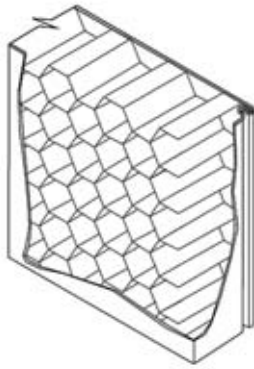
SPECIFICATION COMPLIANCE:

1. Door construction for Steelcraft L Series Full Flush Doors meets the requirements of ANSI A250.8-2003 (SDI 100).
2. Hardware preparations and reinforcements are in accordance with ANSI A250.6-2003. Locations are in accordance with ANSI/DHI A115 unless otherwise stated.

FIRE RATINGS:

L Series Doors meet the broadest fire rating requirements. They are listed for installations requiring compliance to both neutral pressure testing (ASTM E152 and UL-10B) and positive pressure standards (UBC 7-2 and UL-10C).

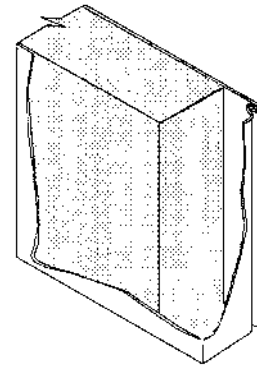
Rigid Honeycomb



Standard Laminated Honeycomb Core

- 1" (25mm) cell, 99 pound Kraft honeycomb
- Honeycomb surfaces sanded for maximum adhesion
- Impregnated with phenolic resin (resists mildew and vermin)
- Laminated to both face sheets with contact adhesive
- Assembled door is run through high pressure pinch rollers, achieving ultimate bond

Optional cores are polystyrene or polyurethane

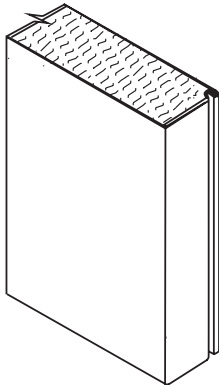


Optional Polystyrene Core

- 1 pound (453.6g) per ft³ density slab
- Laminated to both face sheets with contact adhesive
- Labeled applications

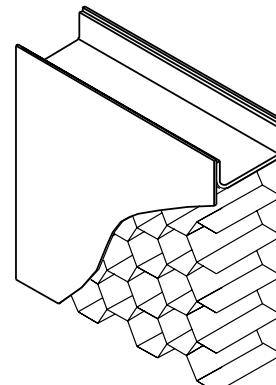
Optional Polyurethane Core

- 1.8 pound (816.5g) per ft³ density slab
- Laminated to both face sheets with contact adhesive
- Non-Labeled applications



Standard Premium Edge Construction

- Beveled hinge & lock edges
- Full height mechanical interlock with epoxy adhesive
- Visible edge seam standard
- Seamless edge optional



Standard Rigid 14 Gage End Channel Construction

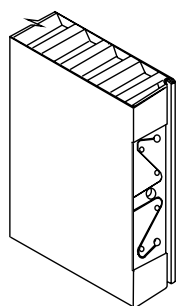
- 14 gage inverted galvanized top & bottom channels
- Projection welded to both face sheets
- Optional 24 gage galvanized top caps

DOOR APPLICATION AND USAGE

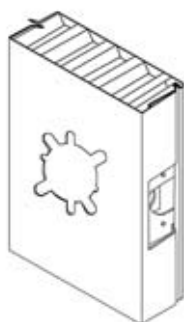
Series	Steel Thickness	Opening	Usage Frequency	
L20	20 Ga (0.8mm)	Interior - Cold Rolled Steel	Standard Duty	Light Commercial applications with minimal use and abuse
L20	20 Ga (0.8mm)	Exterior - Galvanized Steel		
L18	18 Ga (1.0mm)	Interior - Cold Rolled Steel	Heavy Duty	Heavy Commercial & Institutional applications with high use
L18	18 Ga (1.0mm)	Exterior - Galvanized Steel		
L16	16 Ga (1.3mm)	Interior - Cold Rolled Steel	Extra Heavy Duty	Extra Heavy Commercial applications with potential of very high use
L16	16 Ga (1.3mm)	Exterior - Galvanized Steel		
L14	14 Ga (1.7mm)	Interior - Cold Rolled Steel	Maximum Duty	Extra Heavy Commercial applications with extremely high use
L14	14 Ga (1.7mm)	Exterior - Galvanized Steel		

STANDARD HARDWARE PREPARATIONS

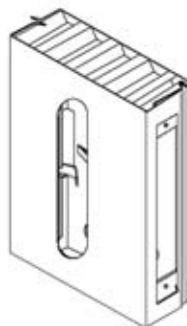
Typical hardware applications shown. Refer to section 8 for more details.



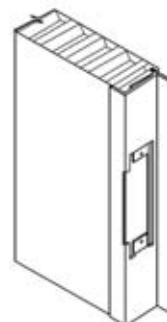
Universal Mortise Hinge Prep
7 Gage Universal hinge reinforcement



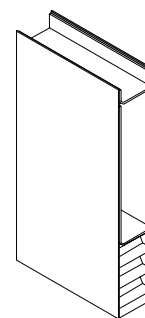
61L Lock



86 Lock



**Inactive Leaf ASA
Strike Prep with
Astragal attached**



**Optional 14 Gage
Closer Reinforcement**

Standard: mortised and reinforced for

- Patented Universal hinge preparations allow for easy field conversion from standard 4-1/2" (114mm) x .134" (3.3mm) standard weight hinges to 4-1/2" (114mm) x .180" (4.7mm) heavy weight hinges. Optional hinge preparation for 5" (127mm) x .146" (3.7mm) standard weight hinges or for 5" (127mm) x .190" (4.8mm) heavy weight hinges is also available.
- A multitude of standard lock preparations are available. The cylindrical 161, 61L and mortise 86 lock preps are the most commonly used active leaf preparations. The 4 7/8 (124mm) strike prep is the most commonly used inactive leaf preparation.
- Optional reinforcements for surface and concealed Closers are available.
- Special hardware applications are available.

Door Sizes and ANSI A250.8 Conversions

Steelcraft product selection for L Series Doors has been matched to ANSI/SDI Level and Model designations.

- In accordance with ANSI A250.8, core material is not specific to the level or model designations. Core material selection is specified based on preference and application.
- Recommended minimum frame gage also applies to the frequency of operation of the opening.

Series	ANSI A250.8 - SDI 100			Edge Construction Options	Maximum Sizes		Recommended Gage of Frame
	Level	Model	Description		Single	Pair	
Level 1 - Light Commercial							
L20	1	1	Full Flush	Visible	3'-0" x 8'-0" 914mm x 2438mm	6'-0" x 8'-0" 1829mm x 2438mm	18 Gage [0.042" (1.0mm)]
LF20		2	Seamless	Epoxy Filled			16 Gage [0.053" (1.3mm)]
Level 2 - Heavy Duty Commercial & Institutional							
L18	2	1	Full Flush	Visible	4'-0" x 10'-0" 1219mm x 3048mm	8'-0" x 10'-0" 2438mm x 3048mm	16 Gage [0.053" (1.3mm)]
LF18		2	Seamless	Epoxy Filled			
LW18		2	Seamless	Welded			
Level 3 - Extra Heavy Duty Commercial & Institutional							
L16	3	1	Full Flush	Visible	4'-0" x 10'-0" 1219mm x 3048mm	8'-0" x 10'-0" 2438mm x 3048mm	16 Gage [0.053" (1.3mm)]
LF16		2	Seamless	Epoxy Filled			14 Gage [0.067" (1.7mm)]
LW16		2	Seamless	Welded			
Level 4 - Maximum Duty Commercial & Institutional							
L14	4	1	Full Flush	Visible	4'-0" x 10'-0" 1219mm x 3048mm	8'-0" x 10'-0" 2438mm x 3048mm	14 Gage [0.067" (1.7mm)]
LF14		2	Seamless	Epoxy Filled			
LW14		2	Seamless	Welded			

DOOR EDGE CONSTRUCTION:

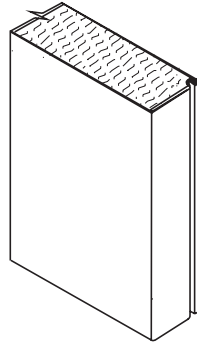
Optional Edge Seams available in the L Series doors:

- L - Standard feature includes visible edge seams with full height interlocked edges.
- LF - the mechanical edge seam is filled and finished prior to applying the factory primer.
- LW - the mechanical edge seam is welded and finished prior to applying the factory primer.

Standard Visible Seamless

L Series Visible Seam Features

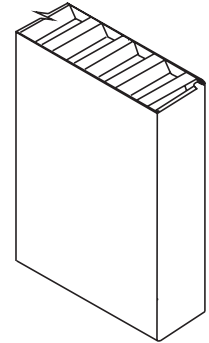
- Full height mechanical interlock
- Interlock filled with epoxy adhesive
- Visible edge seam



Optional Seamless Edge

LF Series Seam Filled Features

- Full height mechanical interlock
- Interlock filled with epoxy adhesive
- Edge seam is epoxy filled and finished
- No visible edge seam



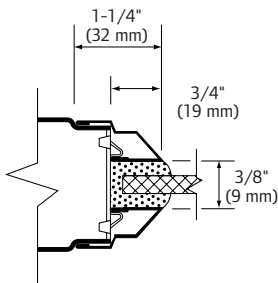
LW Series Seam Welded Features

- Full height mechanical interlock
- Edge seam is welded 1" (25mm) long, 6" (152mm) on center.
- No visible edge seam

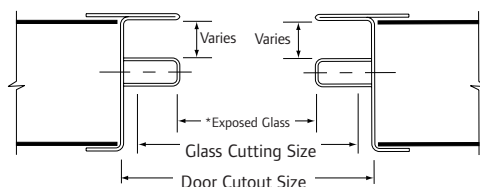
GLASS LIGHT OPTIONS – REFER TO THE LIGHTS AND LOUVERS SECTION FOR FURTHER DETAILS AND OPTIONS

Standard Designer® Trim for 1/4" Thick Glass

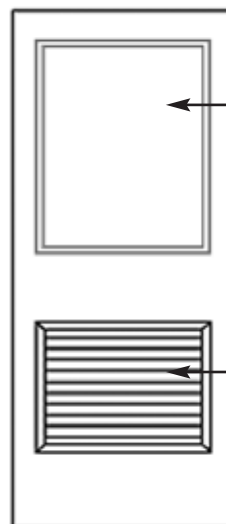
- optional 1/2" Thick Glass



Typical Optional Overlapping Steel Trim for Glass Over 1/4" to 5/8" or 3/4" to 1" Thick



Divider Muntins Are Not Available



Note: Glazing type and thickness vary per job requirements.

Note: Louver size and type vary per requirements.



ABOUT THE PRODUCT:

The SL20 and SL18 Series **Square Edge** Flush Doors are designed to meet the architectural requirements for full flush doors. Refer to Section 11 (Architectural) for specifications and the selection and usage guide of the appropriate door constructions.

This door construction combines the strength and dimensional stability of steel with the structural integrity of the laminate core. The continuous bonding of core to steel face sheets provides an attractive, flat door, free of face welding marks. Tests have proven that the construction employed has integral high resistance to impact damage, low thermal conductivity and high STC ratings.

To meet application, specification and performance requirements, the SL Series Door offers options including sizes, glass light designs and hardware preparations.

SL-Series Doors are 1-3/4" (45mm) thick, with **Square Edges**.

INSTALLATION:

1. Installation shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) *Recommended Erection Instructions for Steel Frames and HMMMA 840*.
2. Fire Rated Assemblies must be in accordance with NFPA Pamphlet 80. *The Authority Having Jurisdiction* is the final authority on issues related to the installation and use of installed Fire Rated Doors.

FEATURES AND BENEFITS:

Steelcraft's SL Series Doors offer the following standard features, which enhance performance and durability:

1. **Core Systems** that enhance the structural integrity of the door:
 - **Honeycomb (standard)** – 1" (25mm) cell kraft honeycomb configuration that increases structural integrity while reducing overall weight
 - **Polystyrene (optional)** – enhanced thermal performance
2. **Full Height, Epoxy Filled Mechanical Interlock Edges** provide structural support and stability the full height of the door edges.
3. **Standard Hinge Preparations** for 4-1/2" (114mm) x .134" (3.3mm) standard weight or .180" (4.7mm) heavy weight hinges.
4. **14 Gage [0.067" (1.7mm)] Inverted Top and Bottom Channels** provide stability and protection for the top and bottom edges from abuse.
5. **Square Hinge and Lock Edges** allow for non-handed inventory control for local distribution.
6. **Recessed Designer™ Glass Trim** provides a clean, neat and flush finish with the door surface.
7. **Factory Applied Baked-On Rust Inhibiting Primer** paint in accordance with ANSI A250.10-1998 (R2004).

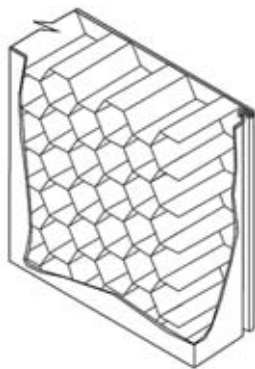
SPECIFICATION COMPLIANCE:

1. Door construction for Steelcraft SL Series doors meets the requirements of ANSI A250.8-2003 (SDI 100).
2. Hardware preparations and reinforcements are in accordance with ANSI A250.6-2003. Locations are in accordance with ANSI/DHI A115 unless otherwise stated.

FIRE RATINGS:

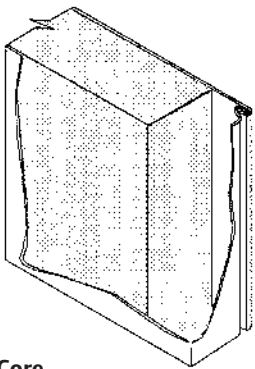
SL Series Doors meet the broadest fire rating requirements. They are listed for installations requiring compliance to both neutral pressure testing (ASTM E152 and UL-10B) and positive pressure standards (UBC 7-2 and UL-10C).

Rigid Honeycomb



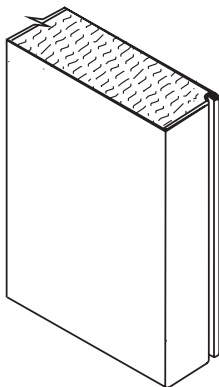
Standard Laminated Honeycomb Core

- 1" (25mm) cell, 99 pound Kraft honeycomb
- Honeycomb surfaces sanded for maximum adhesion
- Impregnated with phenolic resin (resists mildew and vermin)
- Laminated to both face sheets with contact adhesive
- Assembled door is run through high pressure pinch rollers, achieving ultimate bond



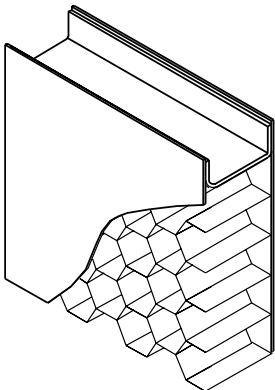
Optional Polystyrene Core

- 1 pound (453.6g) per ft³ density slab
- Laminated to both face sheets with contact adhesive
- Labeled applications



Standard Premium Edge Construction

- Beveled hinge & lock edges
- Full height mechanical interlock with epoxy adhesive
- Visible edge seam standard



Standard Rigid 14 Gage End Channel Construction

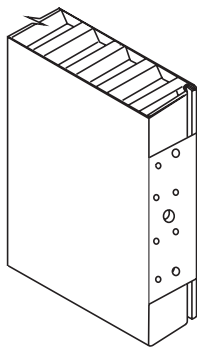
- 14 gage inverted galvanized top & bottom channels
- Projection welded to both face sheets
- Optional 24 gage galvanized top caps

DOOR APPLICATION AND USAGE

Series	Steel Thickness	Opening	Usage Frequency	
SL20	20 Ga (0.8mm)	Interior - Cold Rolled Steel	Standard Duty	Light Commercial applications with minimal use and abuse
SL20	20 Ga (0.8mm)	Exterior - Galvanized Steel		
SL18	18 Ga (1.0mm)	Interior - Cold Rolled Steel	Heavy Duty	Heavy Commercial & Institutional applications with high use
SL18	18 Ga (1.0mm)	Exterior - Galvanized Steel		

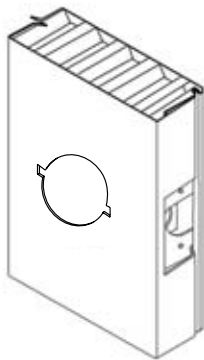
STANDARD HARDWARE PREPARATIONS

Typical hardware applications shown. Refer to section 8 for more details.



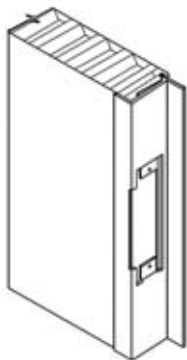
Mortise Hinge

7 Gage hinge reinforcement, reversible hinge fillers supplied

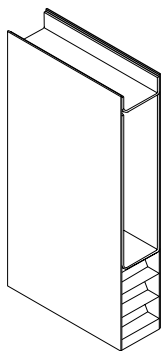


161 Lock

61L Available



Inactive Leaf ASA Strike Prep with Astragal attached



Optional 14 Gage Closer Reinforcement

Standard: mortised and reinforced for

- **Template hinge preparations** for 4-1/2" x .134" standard weight hinges or for 4-1/2" x .180" heavy weight hinges. Butt hinge preparations are cut through for non-handed function; spacer plates are furnished for field installation and handing.
- The cylindrical 161, 61L and mortise 86 lock preps are the most commonly used active leaf preparations. The 4 7/8 (124mm) strike prep is the most commonly used inactive leaf preparation.
- Optional reinforcements for surface Closers are available.
- Limited hardware applications are available.

Door Sizes and ANSI A250.8 Conversions

Steelcraft product selection for SL Series Doors has been matched to ANSI/SDI Level and Model designations.

- In accordance with ANSI A250.8, core material is not specific to the level or model designations. Core material selection is specified based on preference and application.
- Recommended minimum frame gage also applies to the frequency of operation of the opening.

Series	ANSI A250.8 - SDI 100			Edge Construction Options	Maximum Sizes		Recommended Gage of Frame
	Level	Model	Description		Single	Pair	
Level 1 - Light Commercial							
SL20	1	1	Full Flush	Visible	3'-0" x 8'-0" 914mm x 2438mm	6'-0" x 8'-0" 1829mm x 2438mm	18 Gage [0.042" (1.0mm)] 16 Gage [0.053" (1.3mm)]
Level 2 - Heavy Duty Commercial & Institutional							
SL18	2	1	Full Flush	Visible	4'-0" x 8'-0" 1219mm x 2438mm	8'-0" x 8'-0" 2438mm x 2438mm	16 Gage [0.053" (1.3mm)]

DOOR EDGE CONSTRUCTION:

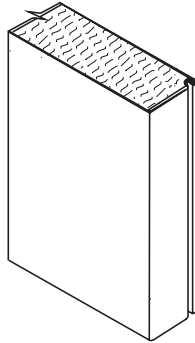
Optional Edge Seams available in the SL Series doors:

- SL - Standard feature includes visible edge seams with full height interlocked edges.

Standard Visible Seam

SL Series Visible Seam Features

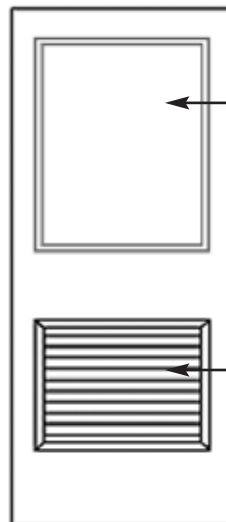
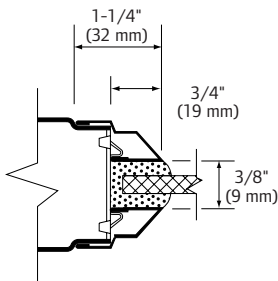
- Full height mechanical interlock
- Interlock filled with epoxy adhesive
- Visible edge seam



GLASS LIGHT OPTIONS – REFER TO THE LIGHTS AND LOUVERS SECTION FOR FURTHER DETAILS

Standard Designer® Trim for 1/4" Thick Glass

- Optional 1/2" Thick Glass



Note: Glazing type and thickness vary per job requirements.

Note: Louver size and type vary per requirements.



ABOUT THE PRODUCT:

Steelcraft B18, B16 and B14 Series Flush Doors are designed to meet the architectural requirements for full flush, steel stiffened doors.

The door face sheets are supported by the internal steel stiffeners, which are welded to the face sheets.

The B Series Door offers a wide range of specifiable options including sizes, glass light designs, optional edge constructions and hardware (mechanical, pneumatic, electrical) preparations.

B-Series Doors are 1-3/4" (45mm) thick.

THE USE OF HIGH GLOSS PAINT IS NOT RECOMMENDED. All internal steel stiffeners are welded to both face sheets. High gloss paint accentuates the visibility of all welds.

INSTALLATION:

1. Installation shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) *Recommended Erection Instructions for Steel Frames and HMMMA 840*.
2. Fire Rated Assemblies must be in accordance with NFPA Pamphlet 80. *The Authority Having Jurisdiction* is the final authority on issues related to the installation and use of installed Fire Rated Doors.

FEATURES AND BENEFITS:

Steelcraft's B Series Doors offer the following standard unique features, which enhance long term performance and durability:

1. **Steel Stiffened core construction** with welded 22 gage hat section stiffeners.
2. **Full Height, Epoxy Filled Mechanical Interlock Edges** provide structural support and stability the full height of the door edges. Available edge options:
 - **Visible Edge Seam** (standard) – full height, epoxy filled mechanical Interlocked edges
 - **Filled Seam** – optional edge seam epoxy filled and finished smooth. Includes tack welds above and below edge cutouts for hinges, locks, etc
 - **Welded Edge Seam** – optional edge seam welded with 1" (25mm) long weld, 6" (152mm) on center, epoxy filled between welds and finished smooth; available on B18, B16 and B14 doors.
3. **Universal Hinge Preparations** (patented) allow for easy field conversion from standard weight .134" (3.3mm) hinges to heavy weight .180" (4.7mm) hinges.
4. **14 Gage [0.067" (1.7mm)] Inverted Top and Bottom Channels** provide stability and protection for the top and bottom edges from abuse.
4. **Beveled Hinge and Lock Edges** allow for tighter installation tolerances, ensure easier operation and eliminate binding and sticking.
5. **Recessed Designer™ Glass Trim** provides a clean, neat and flush finish with the door surface.
6. **Factory Applied Baked-On Rust Inhibiting Primer** paint in accordance with ANSI A250.10-1998 (R2004).

SPECIFICATION COMPLIANCE:

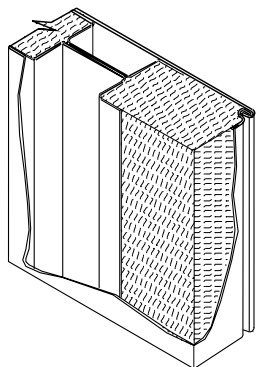
1. Door construction for Steelcraft B Series Full Flush Doors meets the requirements of ANSI A250.8-2003 (SDI 100).
2. Hardware preparations and reinforcements are in accordance with ANSI A250.6-2003. Locations are in accordance with ANSI/DHI A115 unless otherwise stated.

FIRE RATINGS:

B Series Doors meet the broadest fire rating requirements. They are listed for installations requiring compliance to both neutral pressure testing (ASTM E152 and UL-10B) and positive pressure standards (UBC 7-2 and UL-10C).

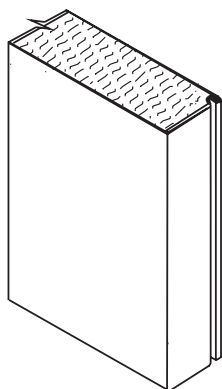
B SERIES CORE CONSTRUCTION

Steel Stiffeners with Fiberglass Insulation

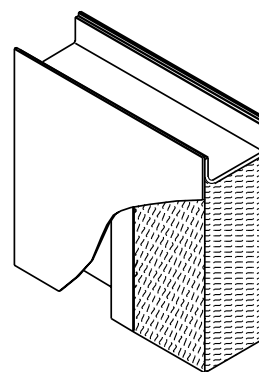


Standard B Series Core

- 22 gage [0.026" (0.6mm)] stiffeners
- Stiffeners welded to inside of face sheets
 - Vertical interior webs located 6" (152mm) apart
 - welded to face sheet 5" (127.6mm) on center
- Stiffeners welded to each other at the top and bottom
- Areas between stiffeners filled with nominal 1 pound (453.6g) per ft³ density fiberglass batt insulation



Inverted Top & Bottom Channels 14 Gage



Standard Premium Edge Construction

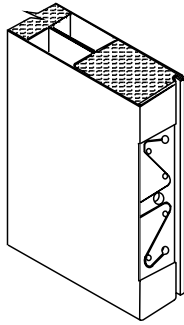
- Beveled hinge & lock edges
- Full height mechanical interlock with epoxy adhesive
- Visible edge seam standard
- Seamless edge optional

DOOR APPLICATION AND USAGE

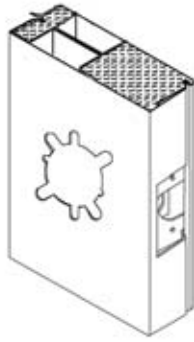
Series	Steel Thickness	Opening	Usage Frequency	
B18	18 Ga (1.0mm)	Interior - Cold Rolled Steel	Heavy Duty	Heavy Commercial & Institutional applications with high use
B18	18 Ga (1.0mm)	Exterior - Galvannealed Steel		
B16	16 Ga (1.3mm)	Interior - Cold Rolled Steel	Extra Heavy Duty	Extra Heavy Commercial applications with potential of very high use
B16	16 Ga (1.3mm)	Exterior - Galvannealed Steel		
B14	14 Ga (1.7mm)	Interior - Cold Rolled Steel	Maximum Duty	Extra Heavy Commercial applications with extremely high use
B14	14 Ga (1.7mm)	Exterior - Galvannealed Steel		

STANDARD HARDWARE PREPARATIONS

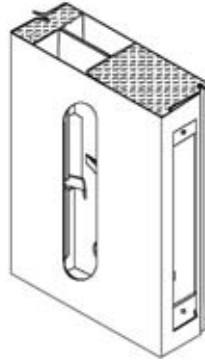
Typical hardware applications shown. Refer to section 8 for more details.



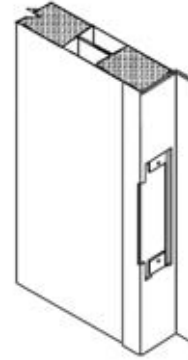
Universal Mortise Hinge
7 Gage Universal hinge reinforcement



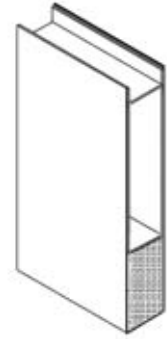
61L Lock



86 Lock



**Inactive Leaf ASA
Strike Prep with
Astragal attached**



**Optional 14 Gage
Closer Reinforcement**

Standard: mortised and reinforced for

- Patented **Universal hinge preparations** allow for easy field conversion from standard 4-1/2" x .134" standard weight hinges to 4-1/2" x .180" heavy weight hinges. Optional hinge preparation for 5" x .146" standard weight hinges or for 5" (127mm) x .190" (4.8mm) heavy weight hinges is also available.
- The cylindrical 161, 61L and mortise 86 lock preps are the most commonly used active leaf preparations. The 4 7/8 (124mm) strike prep is the most commonly used inactive leaf preparation.
- Optional reinforcements for surface and concealed Closers are available.
- Special hardware applications are available.

Door Sizes and ANSI A250.8 Conversions

Steelcraft product selection for B Series Doors has been matched to ANSI/SDI Level and Model designations.

- In accordance with ANSI A250.8, core material is not specific to the level or model designations. Core material selection is specified based on preference and application.
- Recommended minimum frame gage also applies to the frequency of operation of the opening.

Series	ANSI A250.8 - SDI 100			Edge Construction Options	Maximum Sizes		Recommended Gage of Frame
	Level	Model	Description		Single	Pair	
Level 2 - Heavy Duty Commercial & Institutional							
B18	2	1	Full Flush	Visible	4'-0" x 10'-0" 1219mm x 3048mm	8'-0" x 10'-0" 2438mm x 3048mm	16 Gage [0.053" (1.3mm)]
BF18		2	Seamless	Epoxy Filled			
BW18		2	Seamless	Welded			
Level 3 - Extra Heavy Duty Commercial & Institutional							
B16	3	1	Full Flush	Visible	4'-0" x 10'-0" 1219mm x 3048mm	8'-0" x 10'-0" 2438mm x 3048mm	16 Gage [0.053" (1.3mm)]
BF16		2	Seamless	Epoxy Filled			14 Gage [0.067" (1.7mm)]
BW16		2	Seamless	Welded			
Level 4 - Maximum Duty Commercial & Institutional							
B14	4	1	Full Flush	Visible	4'-0" x 10'-0" 1219mm x 3048mm	8'-0" x 10'-0" 2438mm x 3048mm	14 Gage [0.067" (1.7mm)]
BF14		2	Seamless	Epoxy Filled			
BW14		2	Seamless	Welded			

DOOR EDGE CONSTRUCTION:

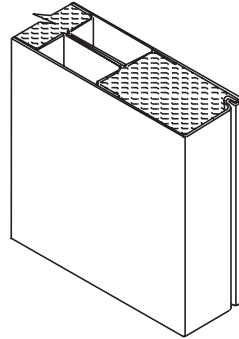
- Vertical edges (both hinge and lock) are beveled 1/8" (3.2mm) in 2" (51mm) with a visible seam.
- Top and bottom edges are closed with inverted 14 gage [0.067" (1.7mm)] welded channels. Exterior applications require the addition of top caps to protect against the weather.
- Optional Edge Seams available in the B Series doors:
 - a. **BF** – the mechanical edge seam is filled and finished prior to applying the factory primer.
 - b. **BW** – the mechanical edge seam is welded and finished prior to applying the factory primer.

Beveled Edge with Full Height Mechanical Interlock

Full Flush

B Series Visible Seam Features

- Full height mechanical interlock
- Interlock filled with epoxy adhesive
- Visible edge seam



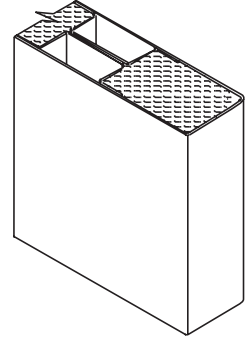
Seamless

BF Series Seam Filled Features

- Full height mechanical interlock
- Interlock is tack welded and filled with epoxy adhesive
- Edge seam is epoxy filled and finished
- No visible edge seam

BW Series Seam Welded Features

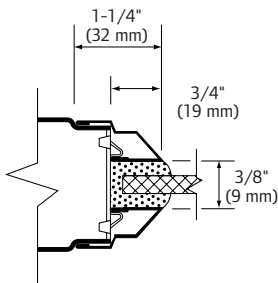
- Full height mechanical interlock
- Interlock filled with epoxy adhesive
- Edge is seam welded 1" (25mm) long, 6" (152mm) O.C.
- No visible edge seam



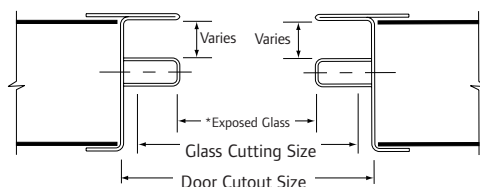
GLASS LIGHT OPTIONS – REFER TO THE LIGHTS AND LOUVERS SECTION FOR FURTHER DETAILS

Standard Designer® Trim for 1/4" Thick Glass

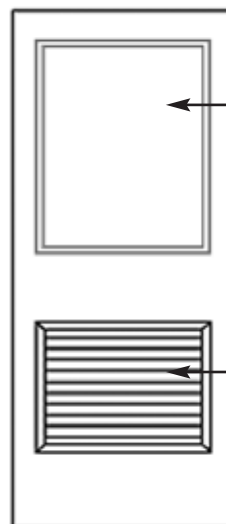
- Optional 1/2" Thick Glass



Typical Optional Overlapping Steel Trim for Glass Over 1/4" to 5/8" or 3/4" to 1" Thick



Divider Muntins Are Not Available



Note: Glazing type and thickness vary per job requirements.

Note: Louver size and type vary per requirements.



ABOUT THE PRODUCT:

Steelcraft T20, T18, T16 and T14 Series Flush Doors are designed to meet the architectural requirements for Temperature Rise rated full flush doors. Refer to Section 11 (Architectural) for specifications and the selection and usage guide of the appropriate door constructions.

To meet application, specification and performance requirements, the T Series door offers a wide range of specifiable options including sizes, glass light designs, optional edge constructions and hardware (mechanical, pneumatic, electrical) preparations.

T-Series Doors are 1-3/4" (45mm) thick.

INSTALLATION:

1. Installation shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) *Recommended Erection Instructions for Steel Frames and HMMA 840*.
2. Fire Rated Assemblies must be in accordance with NFPA Pamphlet 80. *The Authority Having Jurisdiction* is the final authority on issues related to the installation and use of installed Fire Rated Doors.

FEATURES AND BENEFITS:

Steelcraft's T Series Doors offer the following standard unique features, which enhance long term performance and durability:

1. **Mineral board core** provides a 250°F (121°C) Temperature Rise rating or 450°C (232°C) at 30 minutes of test exposure, depending on hardware application.
2. **Full Height, Epoxy Filled Mechanical Interlock Edges** provide structural support and stability the full height of the door edges. Available edge options:
 - **Visible Edge Seam** (standard) – full height, epoxy filled mechanical Interlocked edges
 - **Filled Seam** – optional edge seam epoxy filled and finished smooth. Includes tack welds above and below edge cutouts for hinges, locks, etc
 - **Welded Edge Seam** – optional edge seam welded with 1" (25mm) long weld, 6" (152mm) on center, epoxy filled between welds and finished smooth; available on T18, T16 and T14 doors.
3. **Universal Hinge Preparations** (patented) allow for easy field conversion from standard weight .134" (3.3mm) hinges to heavy weight .180" (4.7mm) hinges.
4. **14 Gage [0.067" (1.7mm)] Inverted Top and Bottom Channels** provide stability and protection for the top and bottom edges from abuse.
5. **Beveled Hinge and Lock Edges** allow for tighter installation tolerances, ensure easier operation and eliminate binding and sticking.
6. **Recessed Designer™ Glass Trim** provides a clean, neat and flush finish with the door surface.
7. **Factory Applied Baked-On Rust Inhibiting Primer** paint in accordance with ANSI A250.10-1998.

SPECIFICATION COMPLIANCE:

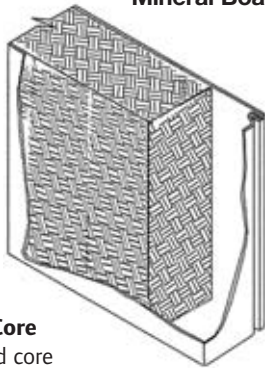
1. Door construction for Steelcraft T Series Full Flush Doors meets the requirements of ANSI A250.8-2003 (SDI 100).
2. Hardware preparations and reinforcements are in accordance with ANSI A250.6-2003. Locations are in accordance with ANSI/DHI A115 unless otherwise stated.

FIRE RATINGS:

T Series Doors meet the broadest fire rating requirements. They are listed for installations requiring compliance to both neutral pressure testing (ASTM E152 and UL-10B) and positive pressure standards (UBC 7-2 and UL-10C).

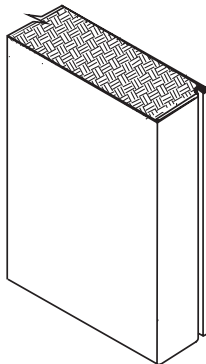
T SERIES CORE CONSTRUCTION

Mineral Board



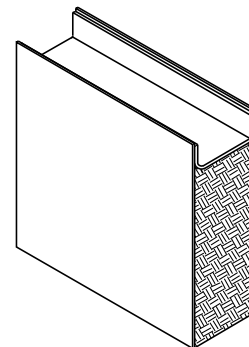
Standard T Series Core

- Mineral Fiber board core
 - 250°F (121°C) Temperature Rise rating
 - single point locks
 - exit hardware
 - 450°F (218°C) Temperature Rise rating
 - single point locks
 - exit hardware
 - doors prepared for InPact exit devices
 - pairs of doors with two (2) vertical rod exit devices (without astragal)
- Fire label ratings up to 3 hours
- Laminated to inside faces of both door panels with contact adhesive



Standard Premium Edge Construction

- Beveled hinge & lock edges
- Full height mechanical interlock with epoxy adhesive
- Visible edge seam standard
- Seamless edge optional



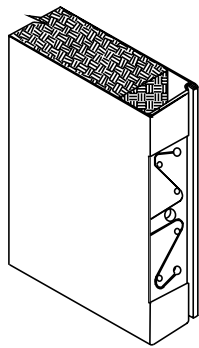
Inverted Top & Bottom Channels
14 Gage

DOOR APPLICATION AND USAGE

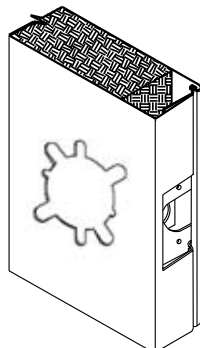
Series	Steel Thickness	Opening	Usage Frequency	
T20	20 Ga (0.8mm)	Interior - Cold Rolled Steel	Standard Duty	Light Commercial applications with minimal use and abuse
T20	20 Ga (0.8mm)	Exterior - Galvannealed Steel		
T18	18 Ga (1.0mm)	Interior - Cold Rolled Steel	Heavy Duty	Heavy Commercial & Institutional applications with high use
T18	18 Ga (1.0mm)	Exterior - Galvannealed Steel		
T16	16 Ga (1.3mm)	Interior - Cold Rolled Steel	Extra Heavy Duty	Extra Heavy Commercial applications with potential of very high use
T16	16 Ga (1.3mm)	Exterior - Galvannealed Steel		
T14	14 Ga (1.7mm)	Interior - Cold Rolled Steel	Maximum Duty	Extra Heavy Commercial applications with extremely high use
T14	14 Ga (1.7mm)	Exterior - Galvannealed Steel		

STANDARD HARDWARE PREPARATIONS

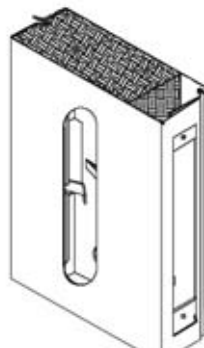
Typical hardware applications shown. Refer to section 8 for more details.



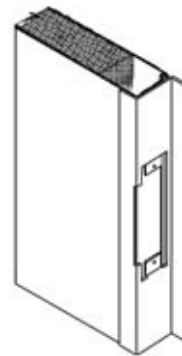
Universal Mortise Hinge
7 Gage Universal hinge reinforcement



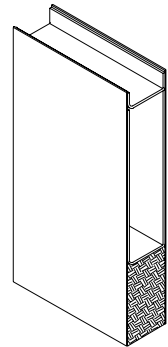
61L Lock



86 Lock



**Inactive Leaf:
ASA Strike**



**Optional 14 Gage
Closer Reinforcement**

Standard: mortised and reinforced for

- Patented **Universal hinge preparations** allow for easy field conversion from standard 4-1/2" x .134" standard weight hinges to 4-1/2" x .180" heavy weight hinges. Optional hinge preparation for 5" x .146" standard weight hinges or for 5" x .190" heavy weight hinge are also available.
- The cylindrical 161, 61L and mortise 86 lock preps are the most commonly used active leaf preparations. The 4 7/8 (124mm) strike prep is the most commonly used inactive leaf preparation.
- Optional reinforcements for surface and concealed Closers are available.
- Special hardware applications are available.

Door Sizes and ANSI A250.8 Conversions

Steelcraft product selection for T Series Doors has been matched to ANS/SDI Level and Model designations.

- In accordance with ANSI A250.8, core material is not specific to the level or model designations. Core material selection is specified based on preference and application.
- Recommended minimum frame gage also applies to the frequency of operation of the opening.

Series	ANSI A250.8 - SDI 100			Edge Construction Options	Maximum Sizes		Recommended Gage of Frame
	Level	Model	Description		Single	Pair	
Level 1 - Light Commercial							
T20	1	1	Full Flush	Visible	3'-0" x 8'-0" 914mm x 2438mm	6'-0" x 8'-0" 1829mm x 2438mm	16 Gage [0.053" (1.3mm)]
TF20		2	Seamless	Epoxy Filled			
Level 2 - Heavy Duty Commercial & Institutional							
T18	2	1	Full Flush	Visible	4'-0" x 9'-0" 1219mm x 2743mm	8'-0" x 9'-0" 2438mm x 2743mm	16 Gage [0.053" (1.3mm)]
TF18		2	Seamless	Epoxy Filled			
TW18		2	Seamless	Welded			
Level 3 - Extra Heavy Duty Commercial & Institutional							
T16	3	1	Full Flush	Visible	4'-0" x 9'-0" 1219mm x 2743mm	8'-0" x 9'-0" 2438mm x 2743mm	16 Gage [0.053" (1.3mm)]
TF16		2	Seamless	Epoxy Filled			14 Gage [0.067" (1.7mm)]
TW16		2	Seamless	Welded			
Level 4 - Maximum Duty Commercial & Institutional							
T14	4	1	Full Flush	Visible	4'-0" x 9'-0" 1219mm x 2743mm	8'-0" x 9'-0" 2438mm x 2743mm	16 Gage [0.053" (1.3mm)]
TF14		2	Seamless	Epoxy Filled			
TW14		2	Seamless	Welded			

DOOR EDGE CONSTRUCTION:

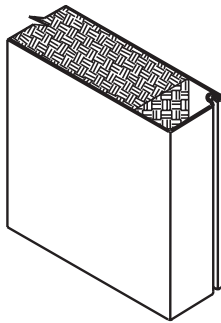
- Optional Edge Seams available in the T Series doors:
 - **TF** – the mechanical edge seam is tack welded filled and finished prior to applying the factory primer.
 - **TW** – the mechanical edge seam is welded and finished prior to applying the factory primer.

Beveled Edge with Full Height Mechanical Interlock

Full Flush

T Series Visible Seam Features

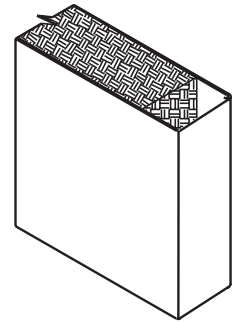
- Full height mechanical interlock
- Interlock is tack welded and filled with epoxy adhesive
- Visible edge seam with tack welds



Seamless

TF Series Seam Filled Features

- Full height mechanical interlock
- Interlock is tack welded and filled with epoxy adhesive
- Edge seam is epoxy filled and finished
- No visible edge seam



TW Series Seam Welded Features

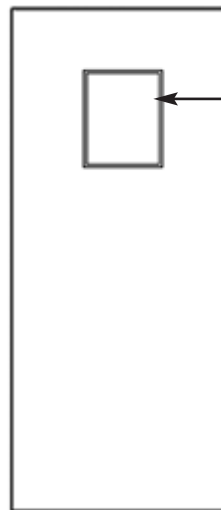
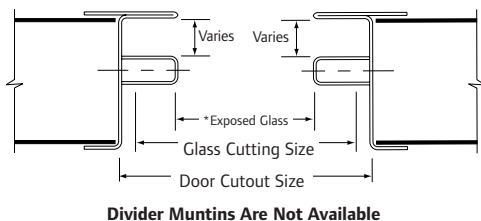
- Full height mechanical interlock
- Edge seam is welded 1" (25mm) long, 6" (152mm) O.C.
- No visible edge seam

GLASS LIGHT OPTIONS – REFER TO THE LIGHTS AND LOUVERS SECTION FOR FURTHER DETAILS AND OPTIONS

Trim for 1/4" Thick Glass

- optional 1/2" Thick Glass

Typical Optional Overlapping Steel Trim for Glass Over 1/4" to 5/8" or 3/4" to 1" Thick



Note: Glazing type and thickness vary per job requirements.



ABOUT THE PRODUCT:

The CE20, CE18 and CE16 Series embossed panel doors are designed to meet the architectural requirements for embossed panel doors. The door construction combines the features and benefits of polystyrene core laminated construction. Refer to Section 11 (Architectural) for specifications and the selection and usage guide of the appropriate door constructions.

This premium door construction combines the strength and dimensional stability of steel with the structural integrity of the laminate core. The continuous bonding of core to steel face sheets provides an attractive, flat door, free of face welding marks.

To meet application, specification and performance requirements, the CE Series embossed panel doors offers a wide range of specifiable options including sizes, glass light designs and hardware (mechanical, pneumatic, electrical) preparations.

CE-Series Doors are 1-3/4" (45mm) thick.

INSTALLATION:

1. Installation shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) *Recommended Erection Instructions for Steel Frames and HMMMA 840*.
2. Fire Rated Assemblies must be in accordance with NFPA Pamphlet 80. *The Authority Having Jurisdiction* is the final authority on issues related to the installation and use of installed Fire Rated Doors.

FEATURES AND BENEFITS:

Steelcraft's CE Series embossed panel doors offer the following standard unique features, which enhance long term performance and durability:

1. **A-40 Galvannealed steel** face sheets
2. **Polystyrene Core** provides enhanced thermal performance
3. **Full Height, Epoxy Filled Mechanical Interlock Edges** provide structural support and stability the full height of the door edges. Available edge options:
 - **Visible Edge Seam** (standard) – full height, epoxy filled mechanical Interlocked edges
 - **Filled Seam** –optional edge seam epoxy filled and finished smooth. Includes tack welds above and below edge cutouts for hinges, locks, etc
4. **Universal Hinge Preparations** (patented) allow for easy field conversion from standard weight .134" (3.3mm) hinges to heavy weight .180" (4.7mm) hinges.
5. **14 Gage [0.067" (1.7mm)] Inverted Top and Bottom Channels** provide stability and protection for the top and bottom edges from abuse.
6. **Beveled Hinge and Lock Edges** allow for tighter installation tolerances, ensure easier operation and eliminate binding and sticking.
7. **Recessed Designer™ Glass Trim** provides a clean, neat and flush finish with the door surface.
8. **Factory Applied Baked-On Rust Inhibiting Primer** paint in accordance with ANSI A250.10-1998.

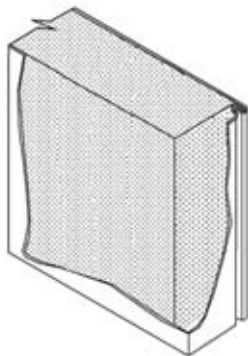
SPECIFICATION COMPLIANCE:

1. Door construction for Steelcraft CE Series embossed panel doors meets the requirements of ANSI A250.8-2003 (SDI 100).
2. Hardware preparations and reinforcements are in accordance with ANSI A250.6-2003. Locations are in accordance with ANSI/DHI A115 unless otherwise stated.
3. Door construction for the CE Series embossed panel doors meets ANSI A117.1-1998 (ADA) requirements for minimum 10" (254mm) bottom rail height measured from the floor.

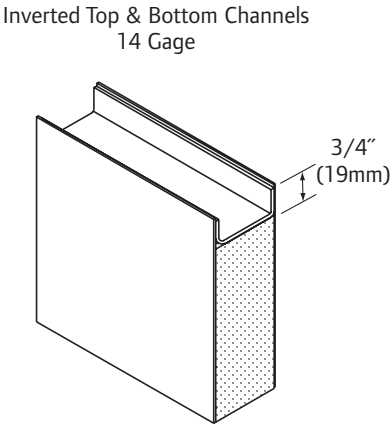
FIRE RATINGS:

CE Series embossed panel doors meet the broadest fire rating requirements. They are listed for installations requiring compliance to both neutral pressure testing (ASTM E152 and UL-10B) and positive pressure standards (UBC 7-2 and UL-10C).

LAMINATED COMBINATION CORE



- Standard CE Series Core**
- 1 pound (453.6g) per ft² density polystyrene slab centered in the door
 - 1" (25mm) cell, 99 pound kraft honeycomb inserted in the void areas
 - honeycomb edges sanded for maximum adhesion
 - impregnated with phenolic resin (resists mildew and vermin)
 - Polystyrene slab and honeycomb laminated to both face sheets with contact adhesive
 - Assembled door is run through high pressure pinch rollers, achieving ultimate bond

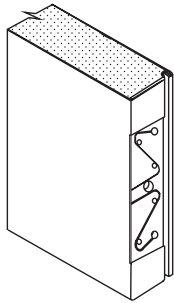


DOOR APPLICATION AND USAGE

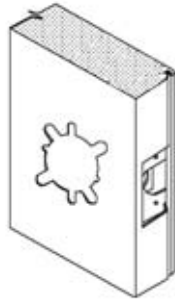
Series	Steel Thickness	Opening	Usage Frequency	
CE20	20 Ga (0.8mm)	Interior or Exterior - Galvannealed Steel	Standard Duty	Light Commercial applications with minimal use and abuse
CE18	18 Ga (1.0mm)		Heavy Duty	Heavy Commercial & Institutional applications with high use
CE16	16 Ga (1.3mm)		Extra Heavy Duty	Extra Heavy Commercial applications with potential of very high use

STANDARD HARDWARE PREPARATIONS

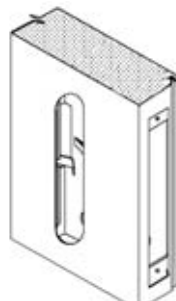
Typical hardware applications shown. Refer to section 8 for more details.



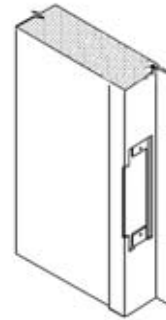
Universal Mortise Hinge
7 Gage Universal hinge reinforcement



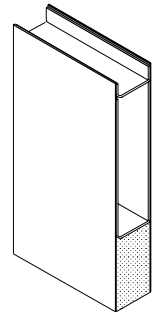
61L Lock



86 Lock



**Inactive Leaf ASA
Strike Prep with
Astragal attached**



**Optional 14 Gage
Closer Reinforcement**

Standard: mortised and reinforced for

- Patented **Universal hinge preparations** allow for easy field conversion from standard 4-1/2" x .134" standard weight hinges to 4-1/2" (114mm) x .180" heavy weight hinges. Optional hinge preparation for 5" x .146" standard weight hinges or for 5" (127mm) x .190" heavy weight hinges is also available.
- The cylindrical 161, 61L and mortise 86 lock preps are the most commonly used active leaf preparations. The 4 7/8 (124mm) strike prep is the most commonly used inactive leaf preparation.
- Optional reinforcements for surface Closers are available.
- Special hardware applications are available.

Door Sizes and ANSI A250.8 Conversions

Steelcraft product selection for CE Series Doors has been matched to ANSI/ISD Level and Model designations.

- In accordance with ANSI A250.8, core material is not specific to the level or model designations. Core material selection is specified based on preference and application.
- Recommended minimum frame gage also applies to the frequency of operation of the opening.

Series	ANSI A250.8 - SDI 100			Edge Construction Options	Maximum Sizes			
	Level	Model	Description		6 Panel Door Design		8 Panel Door Design	
					Single	Pair	Single	Pair
Level 1 - Light Commercial								
CE20	1	1	Full Flush	Visible	3'-0" x 8'-0" 914mm x 2438mm	6'-0" x 8'-0" 1829mm x 2438mm	3'-0" x 7'-0" 914mm x 2134mm	6'-0" x 7'-0" 1829mm x 2134mm
CE20		2	Seamless	Epoxy Filled				
Level 2 - Heavy Duty Commercial & Institutional								
CE18	2	1	Full Flush	Visible	3'-8" x 7'-0" 1118mm x 2134mm	7'-4" x 7'-0" 2235mm x 2134mm	Not Available	Not Available
CE18		2	Seamless	Epoxy Filled				
Level 3 - Extra Heavy Duty Commercial & Institutional								
CE16	3	1	Full Flush	Visible	3'-0" x 8'-0" 914mm x 2438mm	6'-0" x 8'-0" 1829mm x 2438mm	Not Available	Not Available
CE16		2	Seamless	Epoxy Filled				

DOOR EDGE CONSTRUCTION:

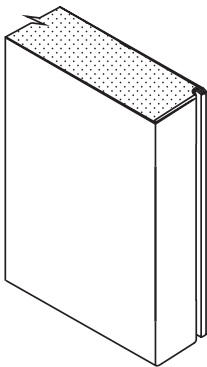
- Optional Edge Seams available in the L Series doors:
 - a. **CF** – the mechanical edge seam is filled and finished prior to applying the factory primer.

Beveled Edge with Full Height Mechanical Interlock

Full Flush

CE Series Visible Seam Features

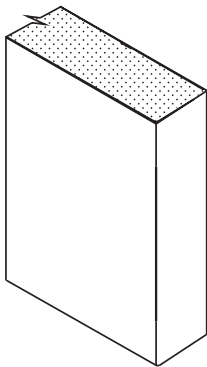
- Full height mechanical interlock
- Interlock filled with epoxy adhesive
- Visible edge seam



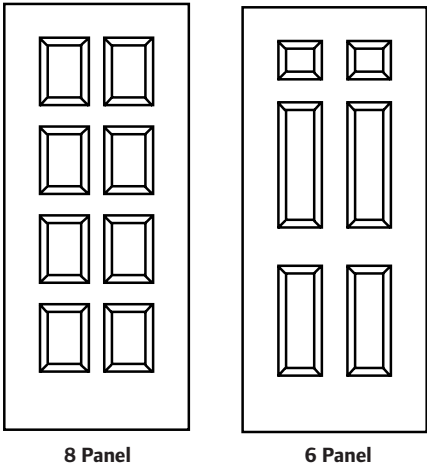
Seamless

CE Series Seam Filled Features

- Full height mechanical interlock
- Interlock filled with epoxy adhesive
- Seam epoxy filled and finished
- No visible edge seam



Embossed Pattern Designs



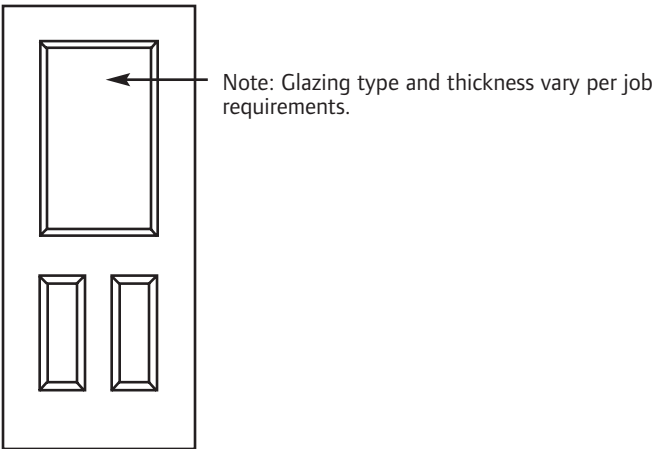
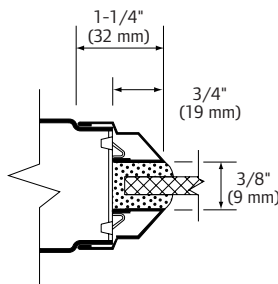
NOTES:
1. Standard door sizes are available as follows:

Pattern Design	Door Width	Door Height
6 Panel	2' 6", 2' 8"	6' 8", 7' 0"
	2' 10", 3' 0" 3' 2", 3' 4" 3' 6", 3' 8"	6' 8", 6' 10" 7' 0", 8' 0"
8 Panel	2' 10", 3' 0" 2' 8", 3' 0"	6' 8", 7' 0"

2. Refer to section 3.3 of this manual for all panel dimensions.
3. Availability of non standard door sizes is limited.

GLASS LIGHT OPTIONS – REFER TO THE LIGHTS AND LOUVERS SECTION FOR FURTHER DETAILS AND OPTIONS

Standard Designer® Trim for 1/4" Thick Glass





ABOUT THE PRODUCT:

The A16 Series Stile and Rail Doors are designed to meet the architectural requirements for Stile and Rail doors. The stiles of the A16 Series Stile and Rail doors extend the full height of the door. The rails are mechanically joined to the stiles to form a neat seam on the face of the door. Refer to Section 11 (Architectural) for specifications and the selection and usage guide of the appropriate door constructions.

The A16 Series Stile and Rail doors are available for high frequency openings and entrances where large full glass (FG, FG2 and FG3) lights are required.

To meet application, specification and performance requirements, the A-Series Stile and Rail Doors offer a wide range of specifiable options including sizes, glass light designs and hardware preparations.

A-Series Doors are 1-3/4" (45mm) thick.

INSTALLATION:

1. Installation shall conform to the published Steelcraft installation instructions, ANSI A250.11-2001 (formerly SDI 105) *Recommended Erection Instructions for Steel Frames and HMMA 840.*
2. Fire Rated Assemblies must be in accordance with NFPA Pamphlet 80. *The Authority Having Jurisdiction* is the final authority in issues related to the installation and use of installed Fire Rated Doors.

FEATURES AND BENEFITS:

Steelcraft's A16 Series Stile and Rail Doors offer the following standard unique features, which enhance long term performance and durability:

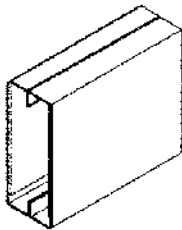
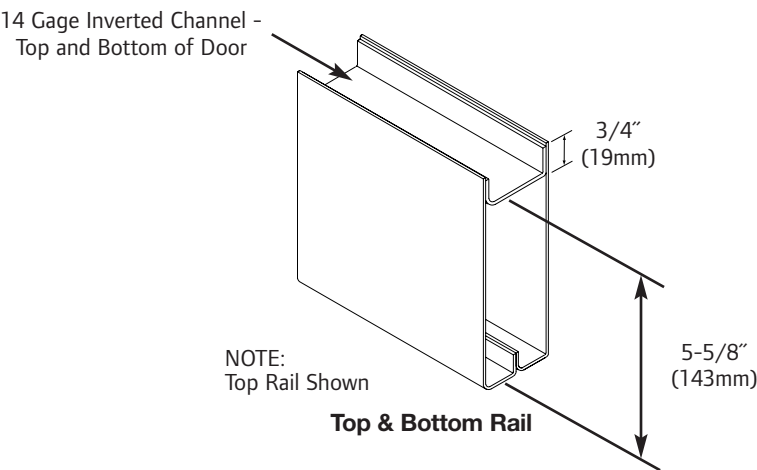
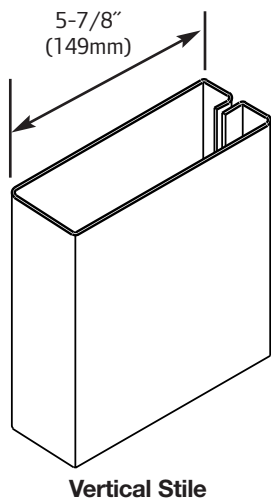
1. **Stile and rail construction** provides support for large glass lights.
2. **Universal Hinge Preparations** (patented) allow for easy field conversion from standard weight .134" (3.3mm) hinges to heavy weight .180" (4.7mm) hinges.
3. **14 Gage [0.067" (1.7mm)] Inverted Top and Bottom Channels** provide stability and protection for the top and bottom edges from abuse.
4. **Beveled Hinge and Lock Edges** allow for tighter installation tolerances, ensure easier operation and eliminate binding and sticking.
5. **Screwless Glazing Beads** provide clean and neat appearance
6. **Factory Applied Baked-On Rust Inhibiting Primer** paint in accordance with ANSI A250.10-1998 (R2004).

SPECIFICATION COMPLIANCE:

1. Door construction for Steelcraft A-16 Series Stile and Rail Doors meets the requirements of ANSI A250.8-2003 (SDI 100).
2. Hardware preparations and reinforcements are in accordance with ANSI A250.6-2003. Locations are in accordance with ANSI/DHI A115 unless otherwise stated.

FIRE RATINGS:

A16 Series Stile and Rail Doors meet fire rating requirements. They are listed for installations requiring compliance to both neutral pressure testing (ASTM E152 and UL-10B) and positive pressure standards (UBC 7-2 and UL-10C).



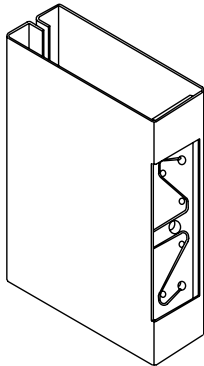
Intermediate Rail

DOOR APPLICATION AND USAGE

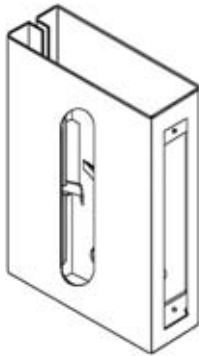
Series	Steel Thickness	Opening	Usage Frequency	
A16	16 Ga (1.3mm)	Interior - Cold Rolled Steel	Extra Heavy Duty	Extra Heavy Commercial applications with potential of very high use
A16	16 Ga (1.3mm)	Exterior - Galvannealed Steel		

STANDARD HARDWARE PREPARATIONS

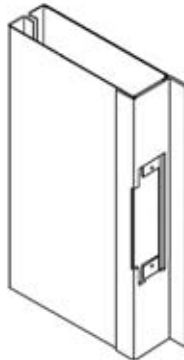
Typical hardware applications of A16-Series doors shown. Refer to section 8 for more details.



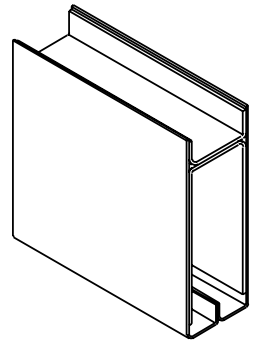
Universal Mortise Hinge
7 Gage Universal hinge reinforcement



86 Lock
For AN16-Series see note below



**Inactive Leaf:
ASA Strike**



**Optional 14 Gage
Closer Reinforcement**

Standard: mortised and reinforced for

- **Patented Universal hinge preparations** allow for easy field conversion from standard 4-1/2" x .134" standard weight hinges to 4-1/2" x .180" heavy weight hinges. Optional hinge preparation for 5" x .146" standard weight hinges or for 5" x .190" heavy weight hinges is also available.
- **Standard lock preparations** - A multitude of standard lock preparations are available.
- **A16-Series** - The cylindrical 161, 61L and mortise 86 lock preps are the most commonly used active leaf preparations. The 4 7/8 (124mm) strike prep is the most commonly used inactive leaf preparation.
- **Closer reinforcements** - Optional reinforcements for surface closers are available.

Door Sizes and ANSI A250.8 Conversions

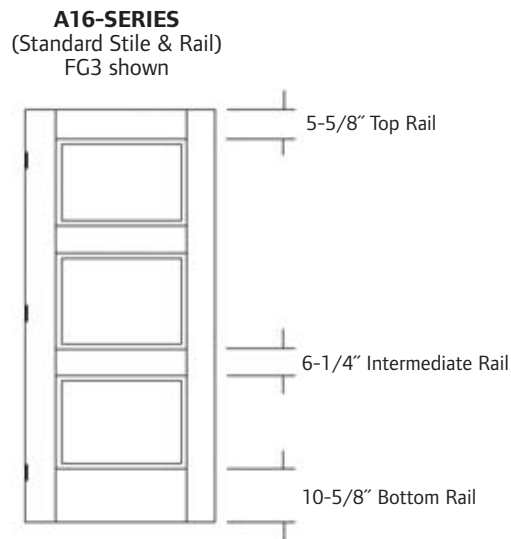
Steelcraft product selection for A-Series Stile and Rail Doors has been matched to ANSI/SDI designations for Level and Model. Recommended minimum frame gage also applies to the frequency of operation of the opening.

Series	ANSI A250.8 – SDI 100			Edge Construction Options	Maximum Sizes		Recommended Gage of Frame
	Level	Model	Description		Single	Pair	
Level 3 – Extra Heavy Duty Commercial & Institutional							
A16	3	3	Stile & Rail	Beveled	4'-0" x 8'-0" 1219mm x 2438mm	8'-0" x 8'-0" 2438mm x 2438mm	16 Gage [0.053" (1.3mm)] 14 Gage [0.067" (1.7mm)]

STANDARD A16-SERIES PERIMETER CONSTRUCTION:

1. **Standard Vertical Stiles** (both hinge and lock) are 5-7/8" (143mm) wide [including the 5/8" (16mm) glazing bead], are tubular in shape, and are beveled 1/8" (3.2mm) in 2" (51mm) with no visible seams.
2. **Standard Top Rails** are 5-5/8" (143mm) wide [including the 5/8" (16mm) glazing bead] and are closed with inverted 14 gage [0.067" (1.7mm)] welded channels. Exterior applications require the addition of top caps to protect against the weather.
3. **Standard Bottom Rails** are 10-5/8" (270mm) wide [including the 5/8" (16mm) glazing bead] and are closed with inverted 14 gage [0.067" (1.7mm)] welded channels.
3. **Standard Intermediate Rails** are 6-1/4" (158mm) wide [including the 5/8" (16mm) glazing bead on the upper and lower edges]. Intermediate rails are used to create the FG2 and FG3 designs.
4. **Optional Size Horizontal Rails include:**
 - a. **Vertical Stiles** - 5-5/8" wide, no variations
 - b. **Top Rail** - 3" (76mm) minimum through 24" (610mm) maximum.
 - c. **Intermediate Rail:** - 3" (76mm) minimum through 24" (610mm) maximum.
 - d. **Bottom Rail** - 6" (152mm) minimum through 24" (610mm) maximum.

STANDARD STILE & RAIL ELEVATIONS:

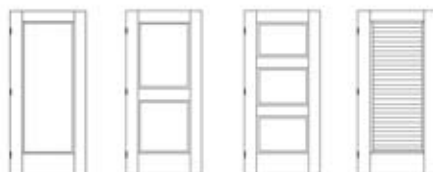


NOTE: For special undercuts - When special undercuts are required, unless otherwise specified, the bottom rail will be held at 10-5/8". This will reduce the size of the bottom glass light accordingly.

Standard AN16 Rail Dimensions

ACCESSORY OPTIONS

Glass Light and Louver Options



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6 Panels (2'-10" thru 3' 8")TD - 3.3.3

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Non-LabeledTD - 3.3.4

LabeledTD - 3.3.6

Optional Lock PreparationTD - 3.3.8

Monorail

PreparationTD - 3.3.9

Graintech

Steel DoorsTD - 3.3.10

Hardware

High Frequency Hinge PreparationTD - 3.3.11

Aluminum Door Edge NosingTD - 3.3.13

Interviewer PrepTD - 3.3.14

Peep Slot With TrimTD - 3.3.15

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Astragal

Z Astragal

ApplicationsTD - 3.3.17

Inactive Leaf MountingTD - 3.3.18

Double Egress MountingTD - 3.3.19

Active Leaf MountingTD - 3.3.20

Hardware PreparationsTD - 3.3.21

Flat Plate Astragal

Exposed FasteningTD - 3.3.22

2 Piece Astragal

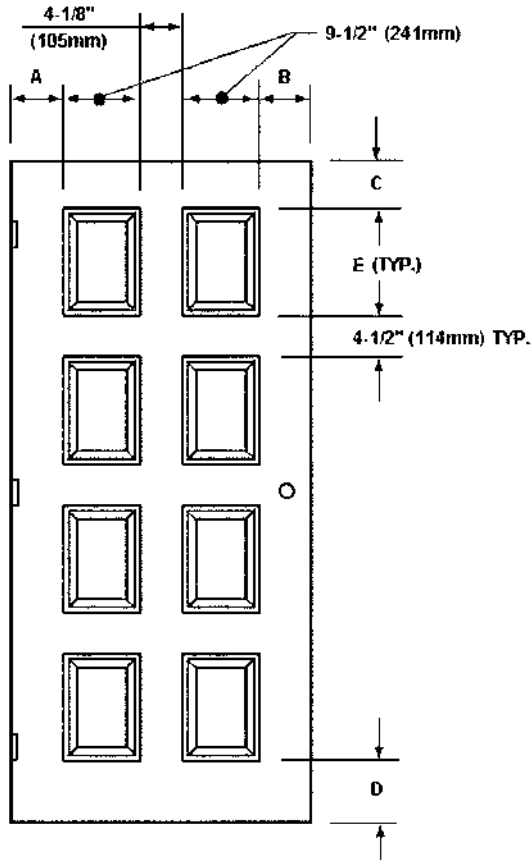
ApplicationsTD - 3.3.24

Hardware PreparationsTD - 3.3.25

Weather Seals

Top & Bottom CapsTD - 3.3.26

Fas-Seal™ Door Bottom SweepTD - 3.3.27

CE-SERIES EMBOSSED 8 PANEL

Door Widths	A	B
2' - 8"	4 11/32"	4 11/32"
3" - 0"	6 11/32"	6 11/32"

Door Heights	C	D	E
6' - 8"	* 3 7/8"	9 3/4"	13"
7" - 0"	5 7/8"	11 3/4"	13"

* **Note** – Due to the 3 7/8" top rail dimension, the use of closers should be either avoided or be mounted with drop brackets on all 6' 8" high embossed 8 Panel doors.

PURPOSE:

Embossed doors are specified when decorative door face sheets are architecturally required. The 8 panel embossed door design is a less popular design.

APPLICATION:

Hotel, apartment or office entrance doors

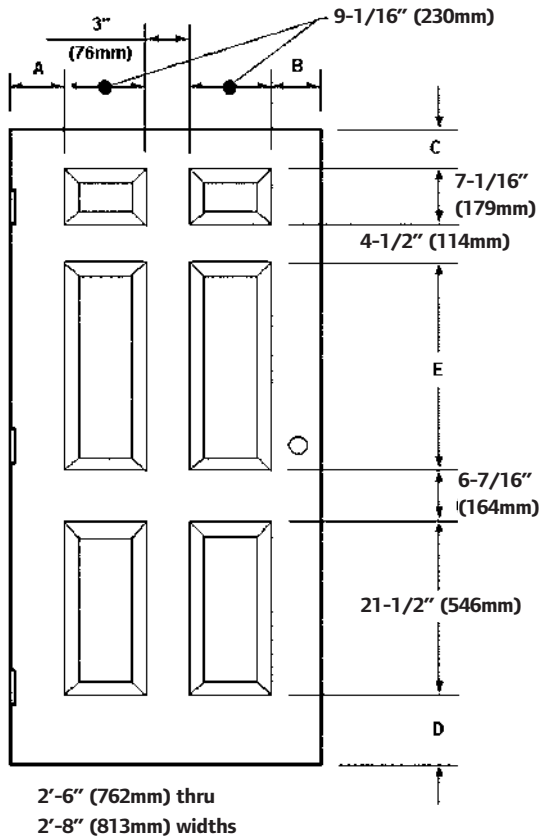
PRODUCT AVAILABILITY:

This door option is available in the CE Series in either fire labeled or and non-labeled applications.

- 20 Gage [0.032" (0.8mm) A-40 galvanized steel.] only
- Available in 1/16" (1.5mm) increments in width and height subject to the following :
 - 2'-8" (813mm) thru 3'-0" (914mm) widths
 - 6'-8" (2032mm) thru 7'-0" (2134mm) heights
- 8 Panel design (lights or louvers are not available)

CE-SERIES EMBOSSED 6 PANELS

2'-6" and 2' 8" door widths



Door Widths	A	B
2' - 6"	3 11/16"	5"
2" - 8"	5 11/32"	5 11/32"

Note - the rail dimension "A" is narrower on the hinge side of doors narrower than 2'8" in nominal door width.

Door Heights	C	D	E
6' - 8"	*4 3/8"	9 3/4"	25 1/2"
7' - 0"	6 3/8"	11 3/4"	25 1/2"

*** Note** - Due to the 4 1/4" top rail dimension, the use of closers should be either avoided or be mounted with drop brackets on all 6' 8" high embossed 6 Panel doors.

PURPOSE:

Embossed doors are specified when decorative door face sheets are architecturally required. The 6 panel embossed door design is the most popular design.

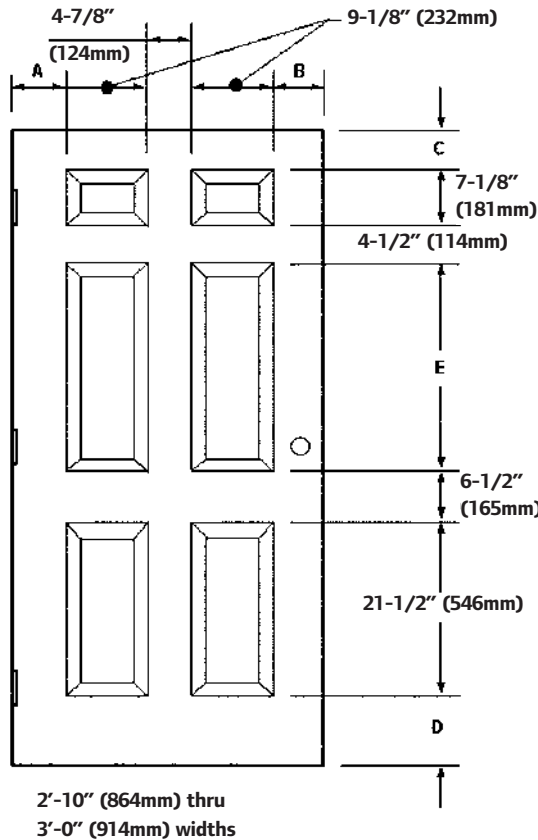
APPLICATION:

Hotel, apartment, office entrance doors or other applications as specified

PRODUCT AVAILABILITY:

This door option is available in the CE Series in either fire labeled or and non-labeled applications.

- 20, 18 or 16 Gage. A-40 galvanized steel.
- Available in 1/16" (1.5mm) increments in width and height subject to the following :
 - 2'-6" thru 2'-8" " widths
 - 6'-8" (2032mm) thru 7'-0" (2134mm) heights
- 6 Panel design has limited lights available. Louvers are not available.

CE-SERIES EMBOSSED 6 PANELS**2'-10" thru 3'-8" door widths**

Door Widths	A	B
2' - 10"	5 11/32"	5 11/32"
3" - 0"	6 11/32"	6 11/32"
3" - 2"	7 11/32"	7 11/32"
3" - 4"	8 11/32"	8 11/32"
3" - 6"	9 11/32"	9 11/32"
3" - 8"	10 11/32"	10 11/32"

Note - on all door widths 2'-10" and wider, both rail dimensions "A" and "B" are equal unless specified differently

Door Heights	C	D	E
6' - 8"	* 4 1/4"	9 3/4"	25 1/2"
6' - 10"	5 1/4"	10 3/4"	
7' - 0"	6 1/4"	11 3/4"	
8' - 0"	6 5/8"	11 3/4"	

- * **Notes** -
1. Due to the 4 1/4" top rail dimension, the use of closers should be either avoided or be mounted with drop brackets on all 6' 8" high embossed 8 Panel doors.
 2. 8'-0" high 6 panel doors are available in only 2'-10" and 3'-0" door widths

PURPOSE:

Embossed doors are specified when decorative door face sheets are architecturally required.

The 6 panel embossed door design is the most popular design.

APPLICATION:

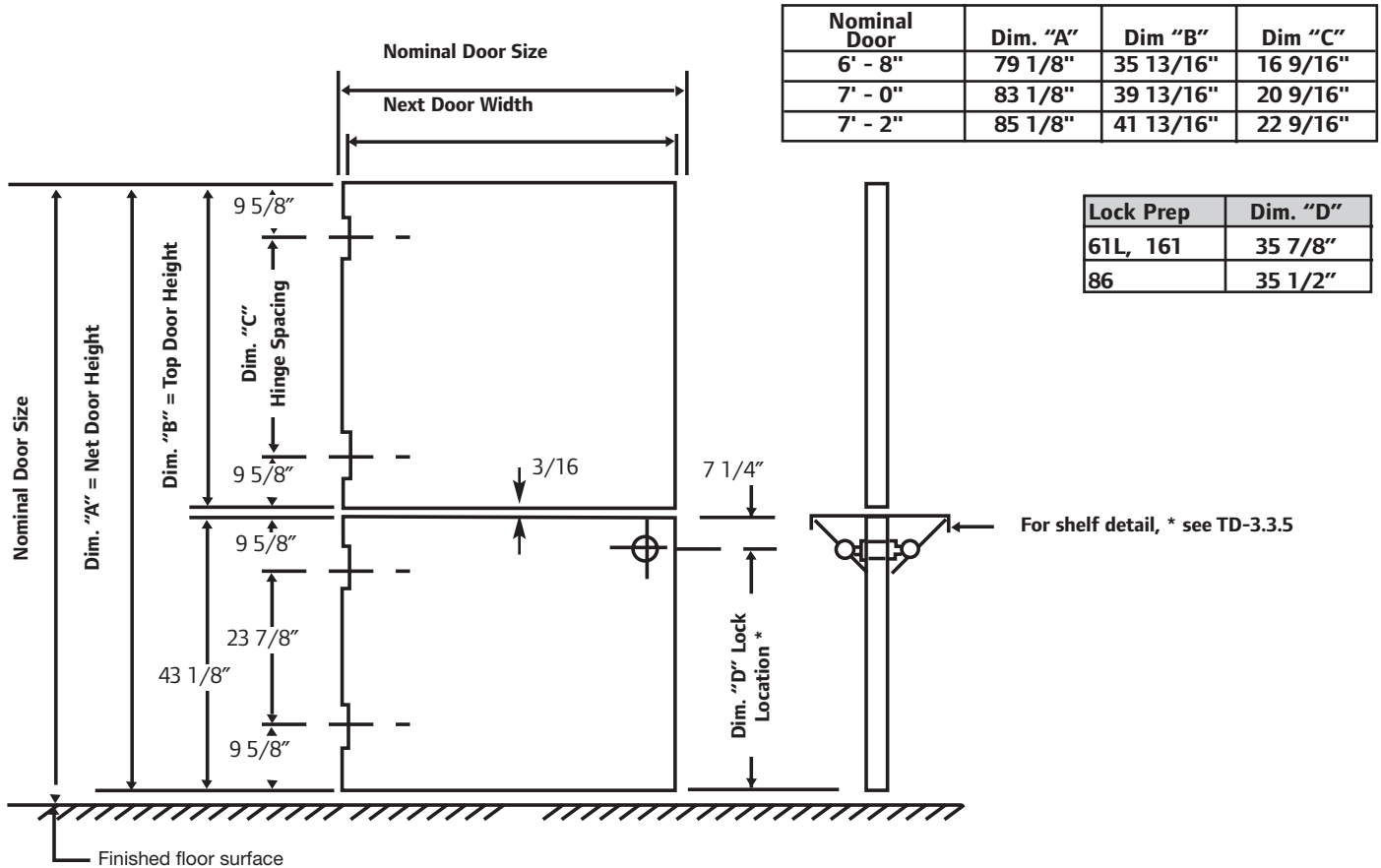
Hotel, apartment, office entrance doors or other applications as specified

PRODUCT AVAILABILITY:

This door option is available in the CE Series in either fire labeled or non-labeled applications.

- 20, 18 or 16 Gage – up to and including 3'-0" door widths
- 18 Gage – 3'-4" thru 3'-8" door widths
- Available in 1/16" increments in width and height subject to the following :
 - 2'-10" thru 3'-8" " widths
 - 6'-8" thru 7'-0" heights – all door widths noted above
 - 8'-0" available in 2'-10" or 3'-0" door widths
- 6 Panel design has limited lights available. Louvers are not available.

Dutch Doors (Non-Labeled)



PURPOSE:

The Dutch door design incorporates two separate door leaves, hung one over the other, and mounted into a single swing opening. Both leaves can operate separately. The bottom leaf latches into the strike jamb of the frame. When specified, the lower leaf can include a dutch door shelf (see TD Sheet #3.3.5)

APPLICATION:

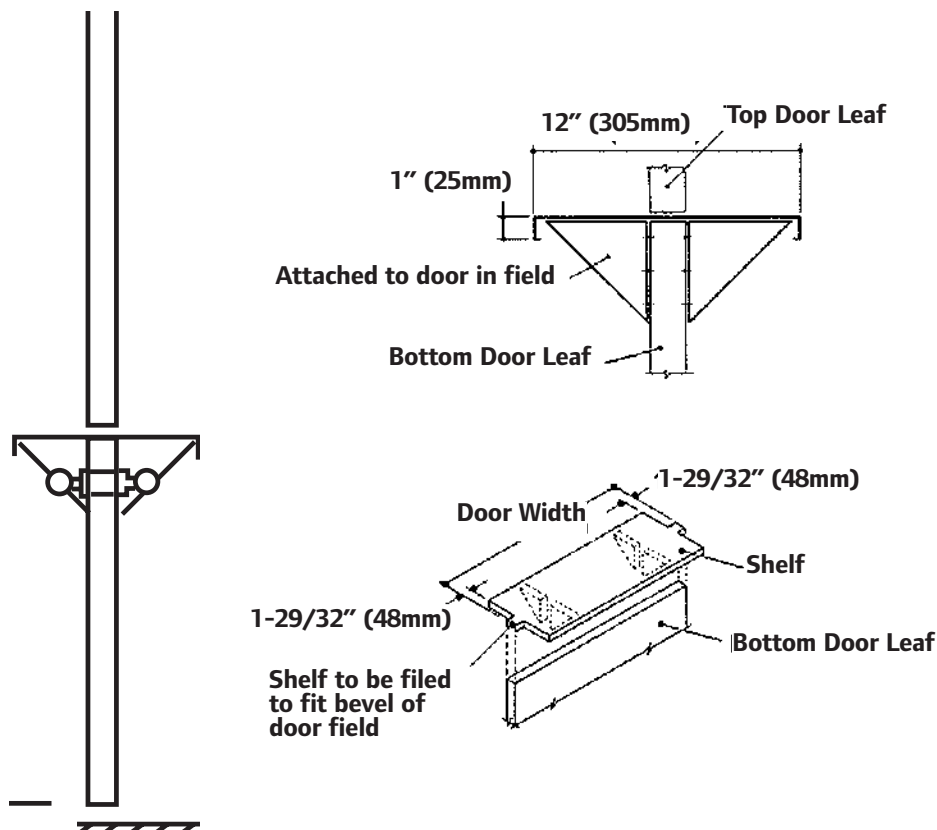
- Usually installed in storage room applications
- Hardware applications:
 - Bottom leaf - prepared for one (1) Government 161, 61L or Government 86 lock.
- Top leaf locking option:
 - Standard - Surface applied bolt engaging bottom leaf
 - Option - Government 161 lock preparation latching into strike jamb
 - Option - Government 161 lock preparation latching into top of bottom leaf (See TD Sheet # 3.3.8)
- Top door leaf may be equipped with a 14 gage closer reinforcement as an option

NOTES:

- Sizes available from 2'-0" (610mm) x 6'-8" (2032mm) thru 4'-0" (1219mm) x 7'-2" (2184mm)
 - Single Swing applications only – no double door configurations
- Glass lights are limited to one 100 square inch light in top leaf
- High Frequency Hinge Reinforcements are installed at the top hinge of each door leaf

PRODUCT AVAILABILITY:

- This product option is available on L and B series doors.

Dutch Door Full Shelf (Non-Label Door)**APPLICATION:**

Non-labeled Dutch Doors applications

The 12" (305mm) wide 16 gage Full Shelf and brackets for non-labeled doors, or the 7" (178mm) wide Half Shelf and brackets (see TD sheet # 3.3.8) is shipped loose from the factory and is to be field attached to the bottom door leaf with the supplied No. 10 x 3/4" (19mm) Bugle Head Sheet Metal Screws.

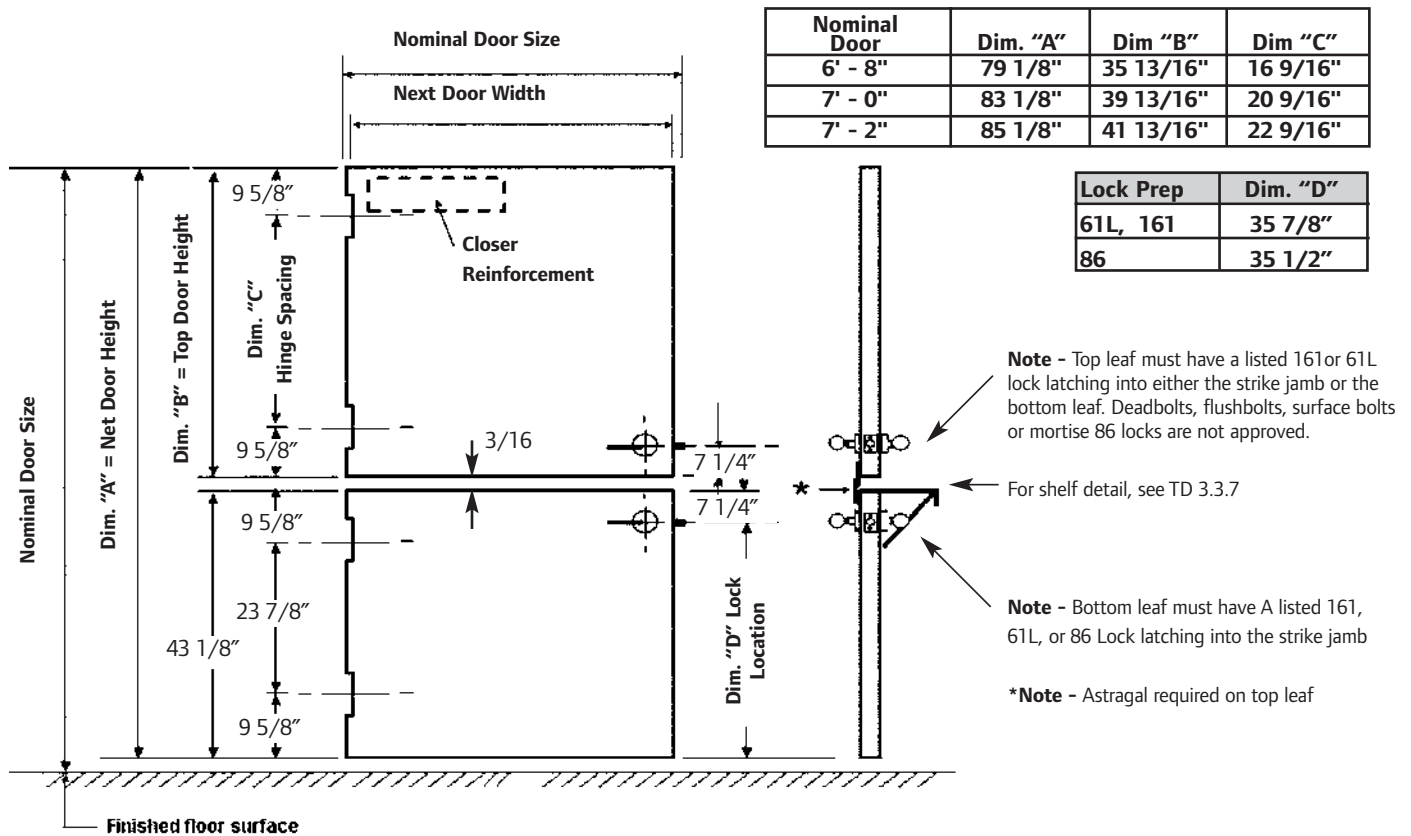
PURPOSE:

Dutch door shelves are not supplied with dutch doors unless specified. When the top leaf is opened, the bottom leaf and shelf act as a counter that can be used for multiple uses. If the Dutch Door Shelf (full or half shelf) is not used, the top of the bottom leaf specify a steel top cap installed.

PRODUCT AVAILABILITY:

The Full and Half Shelf can be used on Steelcraft L and B Series non-labeled doors. Shelves are furnished factory prime painted.

Dutch Doors (Labeled)



PURPOSE:

Fire labeled dutch door design incorporates two separate door leaves, hung one over the other, and mounted into a single swing opening. Both leaves can operate separately. The bottom leaf must latch into the strike jamb of the frame. The top leaf must latch into either the strike jamb or into the top leaf.

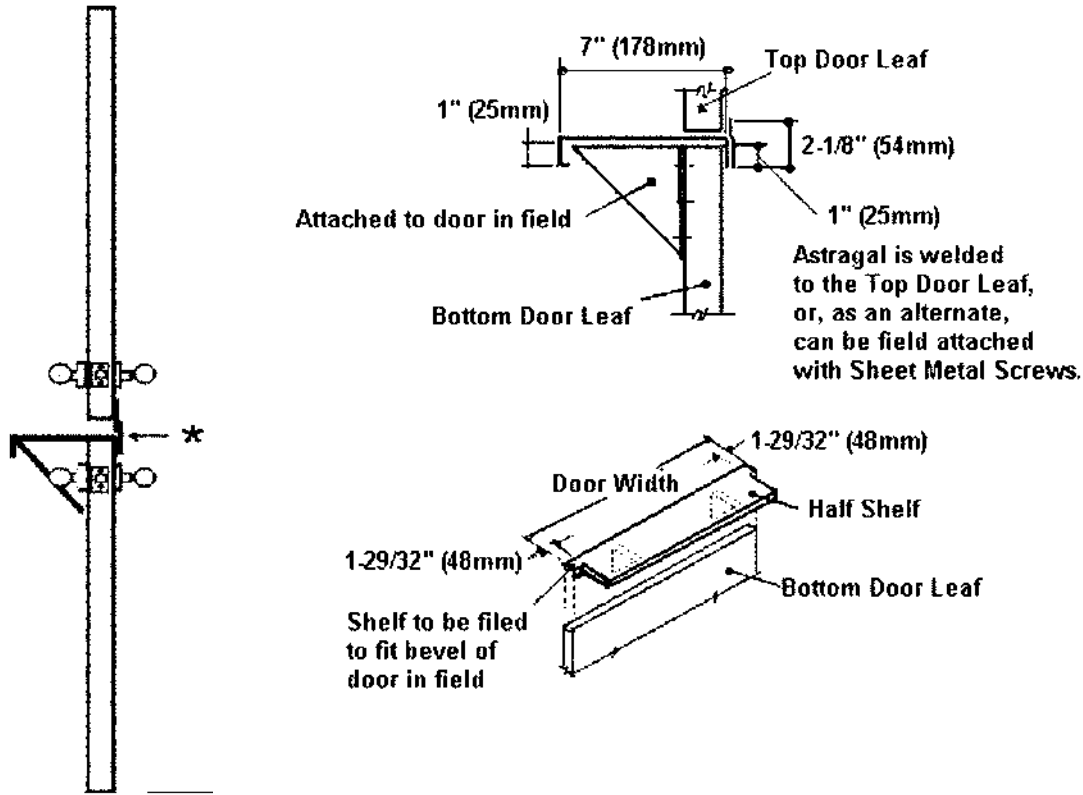
When specified, the lower leaf can include a dutch door half shelf (see TD Sheet # 3.3.7)

APPLICATION:

- Single Swing applications only – no double door configurations
- High Frequency Hinge Reinforcements are installed at the top hinge of each door leaf
- Labeled Dutch Door Openings must have two (2) locks:
 - Standard: Both locks latching into jambs
 - Optional:
 1. Top lock latching into top of bottom leaf
 2. Bottom lock latching into jamb
 3. See TD Sheet # 3.3.8
- Top door leaf must be equipped with a closer reinforcement
- Maximum size for 3 Hour Fire Rating: 4'-0" (1219mm) x 7'-2" (2184mm)
- Limited to one 100 square inch light in top leaf only for 1-1/2 Hour Fire Rating

PRODUCT AVAILABILITY:

- This product option is available for Steelcraft L and B Series Steel Stiffened Doors. See the Fire Rated Products Section for additional information.

DUTCH DOOR HALF SHELF (LABELED DOORS)**PURPOSE:**

Dutch door shelves are not supplied with dutch doors unless specified. When the top leaf is opened, the bottom leaf and shelf act as a counter. If the Dutch Door Shelf (half shelf) is not used, it is recommended that the bottom leaf includes a steel top cap installed.

APPLICATION:

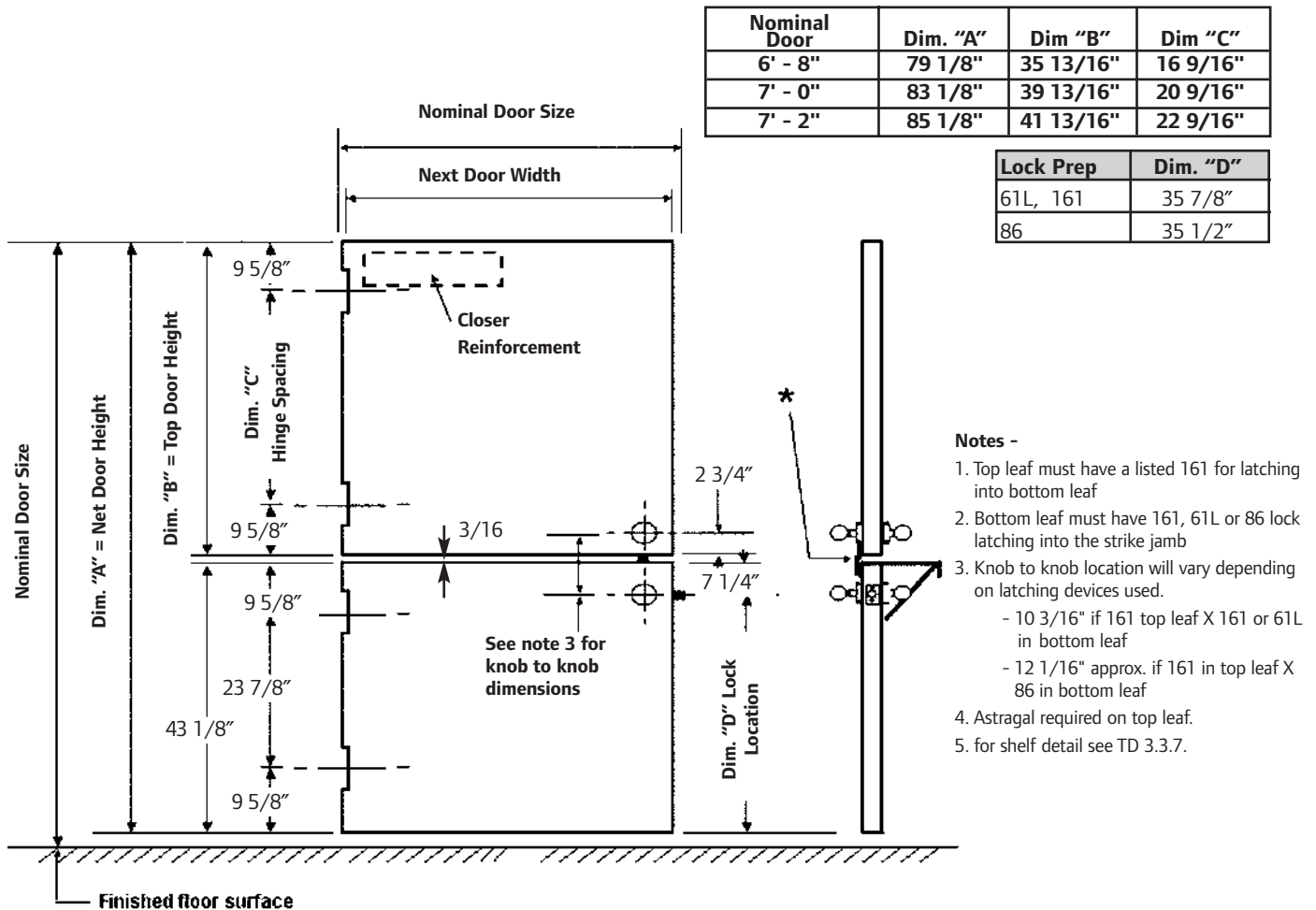
Labeled and non-labeled fire rated Dutch Door assemblies

The 7" wide (178mm) 16 gage (1.3mm) Half Shelf and brackets for Labeled Doors is shipped loose from the factory and is to be field attached to the bottom door leaf with the supplied No. 10 x 3/4" (19mm) Bugle Head Sheet Metal Screws. The astragal is factory welded to the top door leaf.

PRODUCT AVAILABILITY:

The Half Shelf can be used on Steelcraft L and B Series labeled or non-labeled doors. The shelf is furnished factory prime painted.

Dutch Door - Optional Lock Preparation



PURPOSE:

In the interest of expedient transition through the path of the means of egress, a single lock operation of latch bolt retraction becomes paramount. By choosing this preparation, the only lock operation required to retract the latch bolt is found at the standard lock location on the bottom leaf.

APPLICATION:

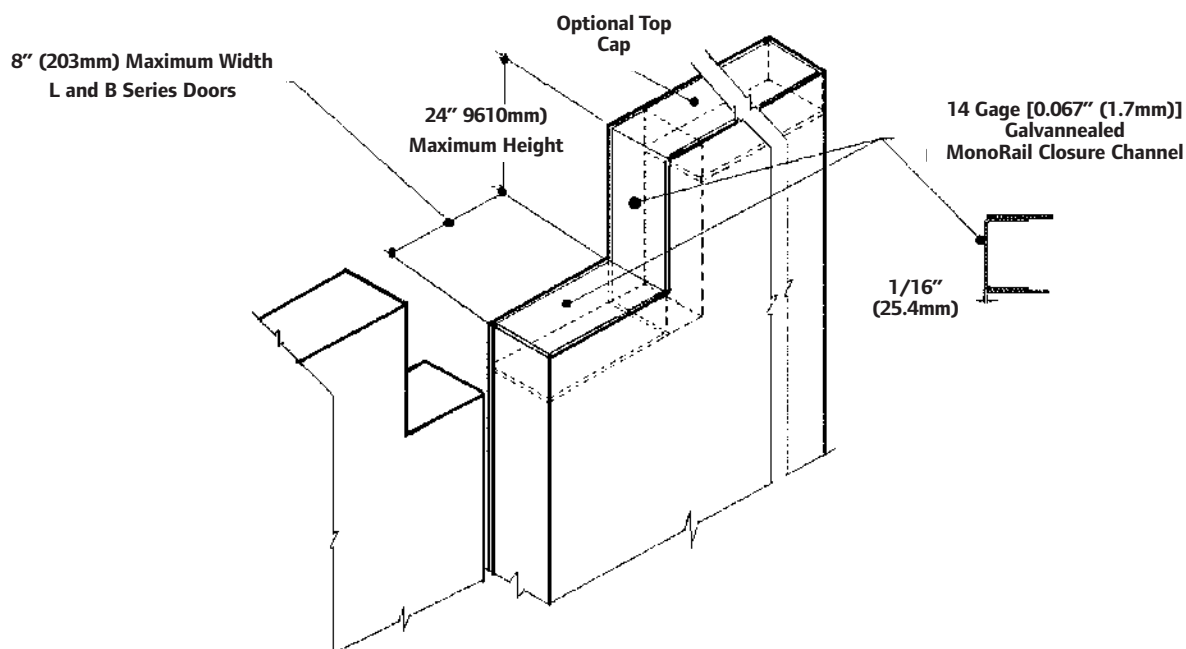
Labeled and non-labeled fire rated Dutch Door assemblies

This alternative lock preparation combination is Fire Rated up to 3 hours. The top leaf is limited to a Government 161 lock preparation. The bottom leaf may be prepared for a Government 86, 61L or 161 lock. The latch bolt of the lock in the top leaf projects into a cylindrical strike attached to the strike preparation in the top of the bottom leaf, eliminating one strike preparation in the jamb. This optional lock preparation must be specified when ordering.

PRODUCT AVAILABILITY:

This lock preparation is available on Steelcraft L and B Series Steel Stiffened doors for non-label, or for labeled openings up to 3 hour Fire Ratings. See the Fire Rated Products Section for additional information.

MONORAIL PREPARATION

**PURPOSE:**

When the movement of heavy equipment or material is required between separated work areas of an industrial buildings, overhead monorails are employed to support and transport mechanically operated cranes. When specified, doors with monorail preparations are designed to accommodate the transfer equipment and perform as closures between these spaces.

APPLICATION:

Industrial non-fire rated applications

When specified preparation includes:

- 14 gage (1.7mm) galvanized Mono Rail Closure Channel is installed along cutout perimeter
 - tack welded to the door faces
 - projects 1/16" (1.6mm) beyond edge of vertical cutout of the L and B Series doors
- Optional top caps are positioned in the top of the door as required

PRODUCT AVAILABILITY:

This door option is available for the following Steelcraft Door Series:

- L and B Series Full Flush doors

GRAINTECH STEEL DOORS



PURPOSE:

When a premium wood finish is desired, and the features and benefits of steel are required, Steelcraft's GrainTech® products provide the flexibility your specification demands.

APPLICATION:

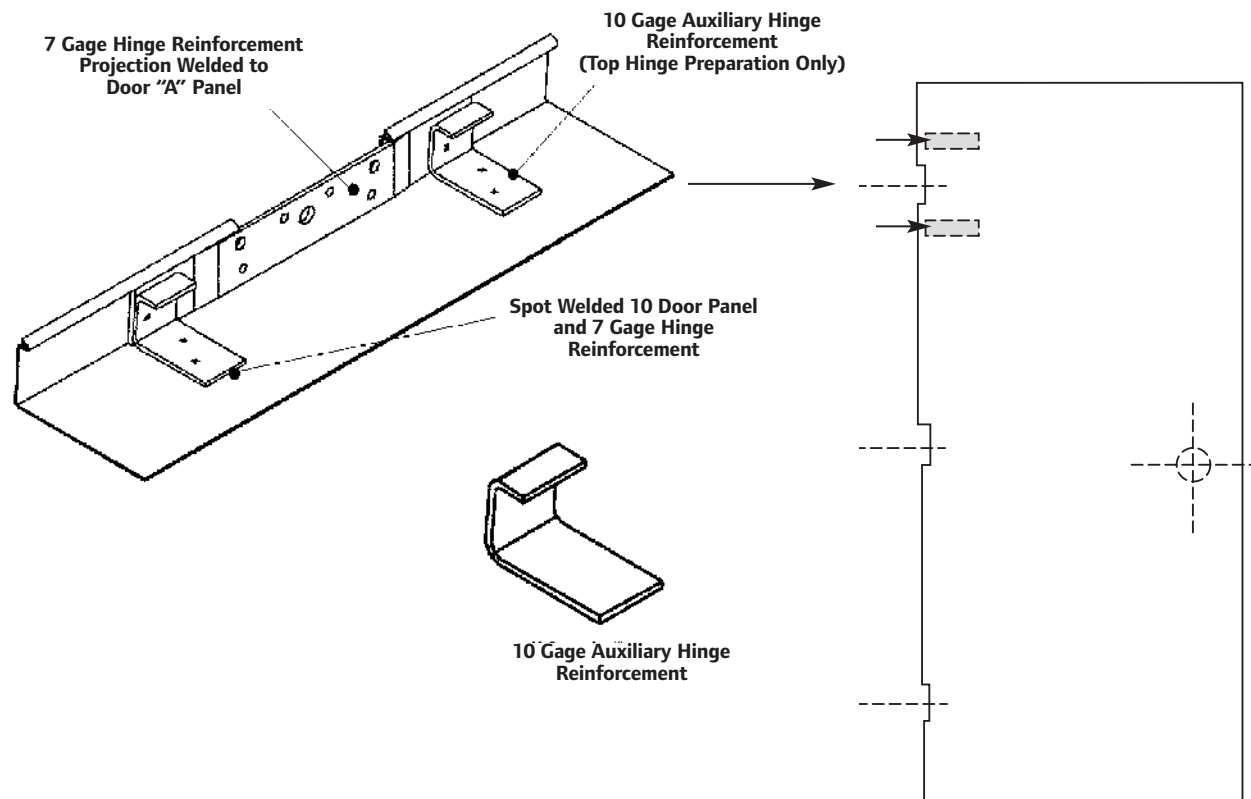
The exclusive engraving and staining process employed simulates a wide variety of wood finishes, from the standards of Birch, Ash, Oak, Maple, Mahogany and Walnut to custom finish matching or primed only. GrainTech® is ideal to use in Schools, Hospitals, Offices, Nursing Homes, Apartment Buildings, Dormitories, etc. Unlike veneered or solid wood doors, GrainTech® is fully warranted for use on exterior openings, is less susceptible to damage, and will never warp, crack, peel or bow. Designer® Trim Glass Lights used for glass light openings is likewise supplied in the finish matching the door.

PRODUCT AVAILABILITY:

This product option is available in the following door constructions:

- CE Series (18 and 16 gage)
- H16 and HE16 Series
- L Series (20, 18 and L16 gage)
- T Series (20, 18 and T16 gage)

See the Fire Rated Products Section for application to Fire Rated doors.

HIGH FREQUENCY HINGE PREPARATION**PURPOSE:**

The optional high frequency hinge reinforcement provides additional strength to the 4-1/2" (114mm) or 5" (127mm) hinge reinforcement specified for use in high abuse openings.

APPLICATION:

The 10 gage (3mm) auxiliary hinge reinforcement is spot welded to the top and bottom of the top hinge reinforcement in 2 locations of the door:

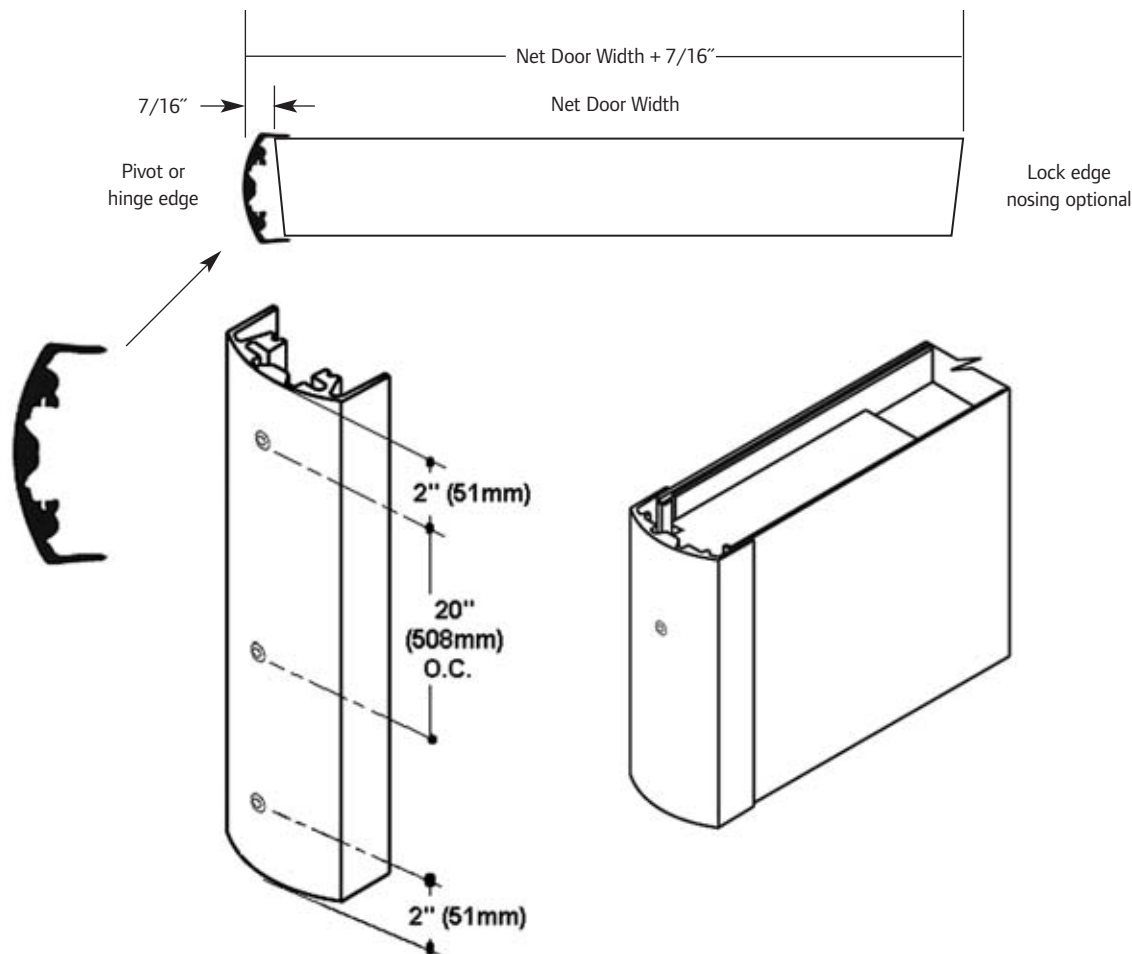
- the face of the door panel
- the 7 gage (4.7mm) hinge reinforcement (projection welded to the door at the factory)

Primarily applicable to the top hinge reinforcement of 4-1/2" (114mm) or 5" (127mm) hinge reinforcements the auxiliary reinforcement may be used on other hinge locations when specified.

PRODUCT AVAILABILITY:

High frequency hinge reinforcements are available factory installed only, and are applicable to all Series of Steelcraft labeled and non-labeled steel doors.

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ALUMINUM DOOR EDGE NOSING**PURPOSE:**

Optional aluminum door edge nosing is recommended for use on double acting doors to minimize the operating clearance, between the door edge(s) and the jamb(s) of the frame.

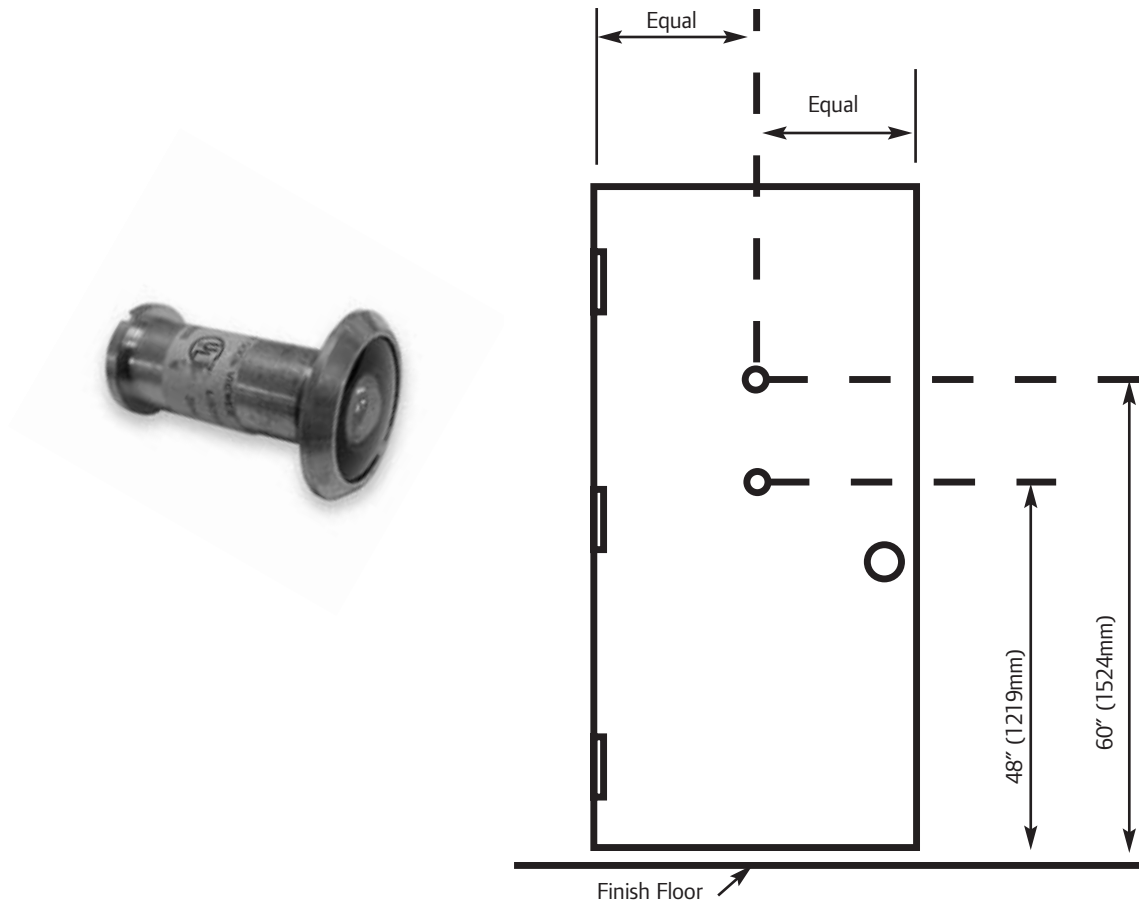
APPLICATION:

- Door edge nosing, manufactured from extruded aluminum, is prime painted.
- Recommended application to hinge edge of doors equipped with Double Acting Center Hung Pivots, Double Acting Spring Hinges, Double Acting Floor Closers and Rescue Hardware to reduce the additional vertical edge clearances required.
- Some applications may require nosing to be applied to both the pivot/hinge and lock edges of the door. Door size and/or pivot/hinge location must be adjusted accordingly.
- The door edge nosing is placed over the door edge. A No.4 x 1" oval head sheet metal screw is installed through a 3/16" (5mm) diameter hole to attach the unit to the door.
- Double acting doors are normally installed in cased open frames (frames that have no stops). However, smoke and fire can penetrate the clearance gap, creating a failure.
- No labeled applications.

PRODUCT AVAILABILITY:

This door option is available for the L, B, CE, A and AN Series doors.

VIEWER PREP



PURPOSE:

Interviewer preps are specified when vision through a door without the use of a window is required.

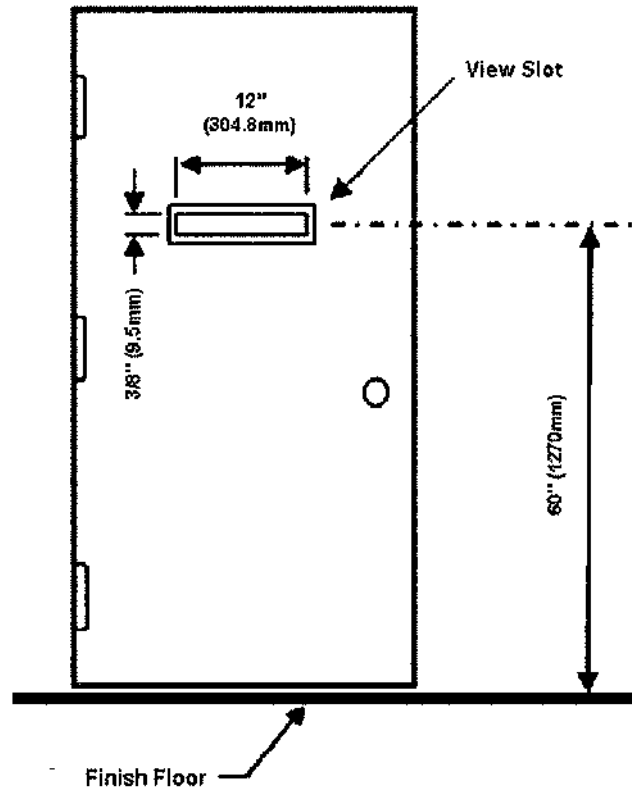
APPLICATION:

Hotel room or apartment entrance doors

The Interviewer preparation (Peep Hole) has a normal location centered on the door with various heights that depend on application. Two of the standard vertical locations are shown above. The maximum size preparation is a 3" diameter (76.2mm) hole. For fire rated applications, the viewer must also be fire rated. Maximum 3/4" diameter hole unless otherwise listed and by UL or ITS/WHI

PRODUCT AVAILABILITY:

This door option is available for the L, SL, B, T, CE and non-Labeled H Series doors.

PEEP SLOT WITH TRIM**PURPOSE:**

Certain building segments require functional, inconspicuous observation positions to enforce the safety and security regulations prescribed by the facility operating procedures. This optional viewing unit is factory installed

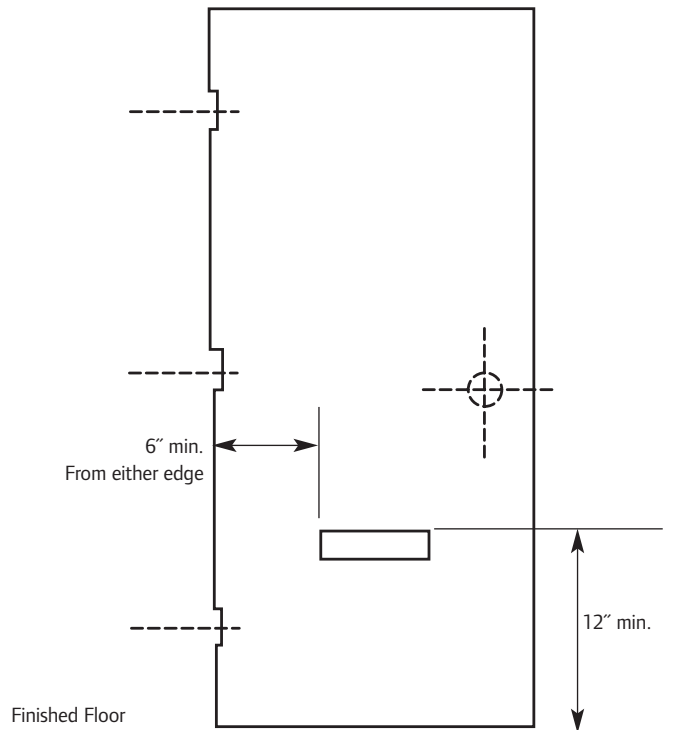
APPLICATION:

The Peep Slot with trim preparation has a recommended vertical location of 60" (1270mm) and is centered on the door. Customer specified heights that depend on application, are available. The cutout dimension is 13-1/2" (343mm) wide x 1-7/8" (48mm) high. The perimeter of the cutout is reinforced with a 18 gage channel. The U-Channel trim finishes the viewing area dimension to 3/8" (9.5mm) high x 12" (304.8mm) wide.

PRODUCT AVAILABILITY:

This preparation is available on Steelcraft L and B Series doors.

MAIL SLOT PREPARATION



Typical Door Elevation

PURPOSE:

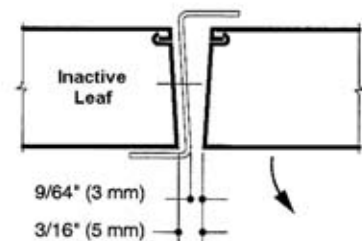
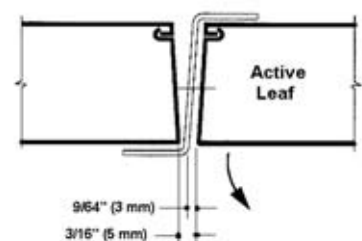
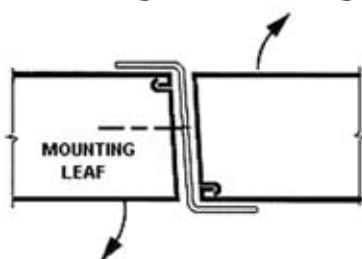
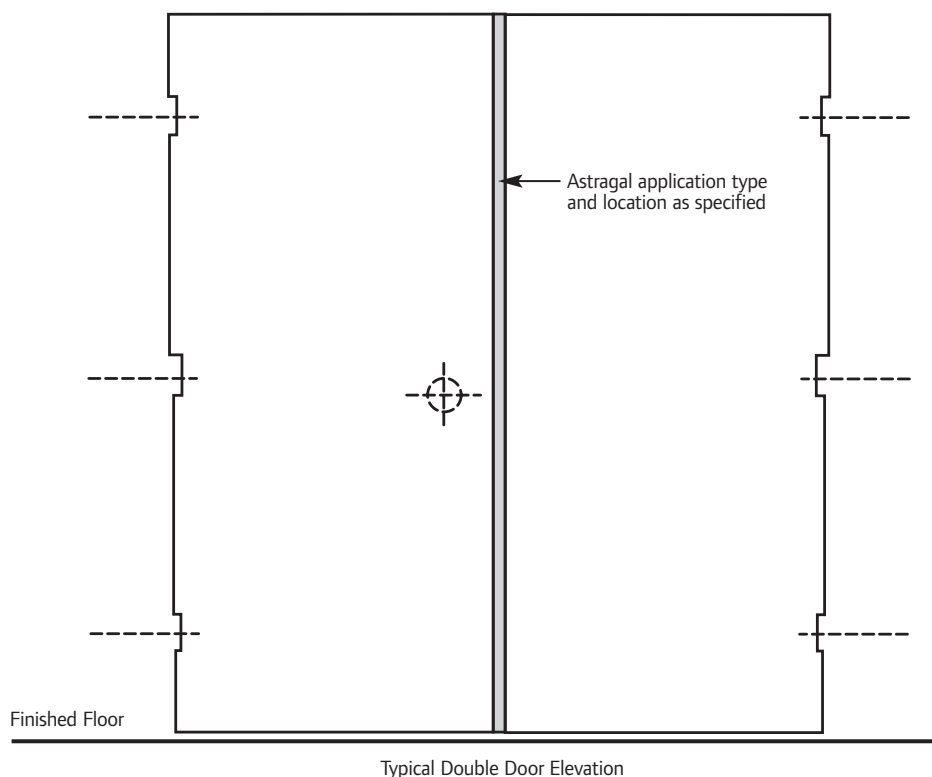
Optional mail slots allow for the pass through of mail. They are usually located in the bottom of the door and are prepared in the bottom of the door when specified

APPLICATION:

The preparation must be placed within the minimum edge dimensions shown above. Customer must indicate the manufacturer, template number and model number of the unit to be installed in order to prepare the proper size opening.

PRODUCT AVAILABILITY:

This preparation is available on Steelcraft L and CE Series doors.

Z ASTRAGAL – Applications**Inactive Leaf Mounting****Active Leaf Mounting****Double Egress Mounting****Z Astragal Applications****PURPOSE:**

Astragals are used to close the gap between pairs of doors. The astragal seals the opening from weather, light, and in some cases, sound. Security requirements dictate the appropriate application.

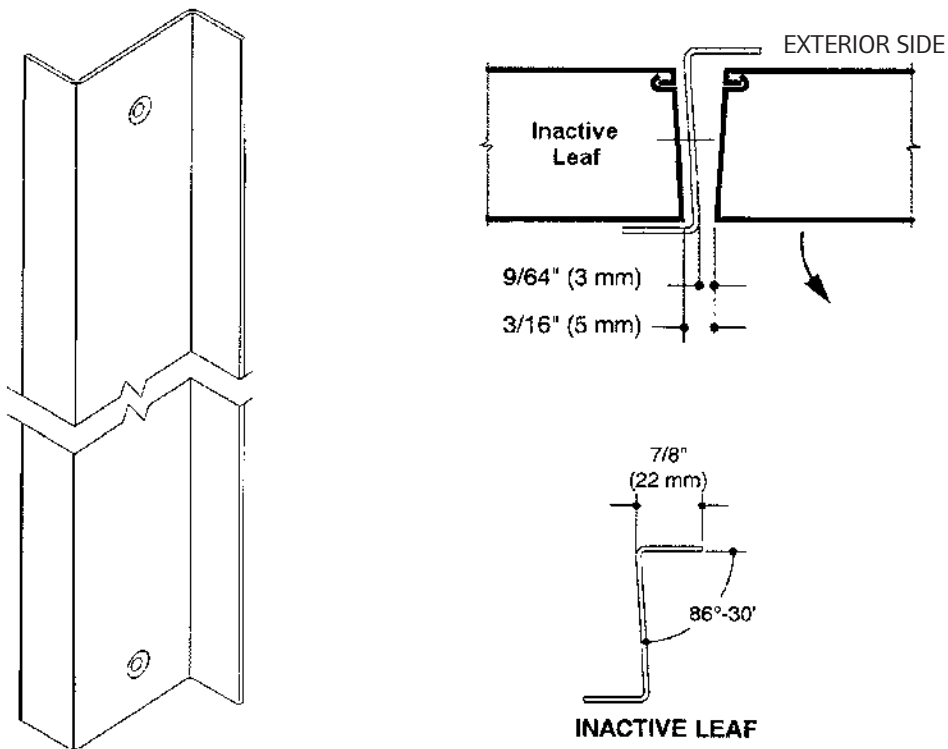
APPLICATION:

- This astragal is normally supplied with pairs of Steelcraft doors.
 - This is a handed product.
 - Attachment is made to the inactive door leaf, with the sheet metal screws supplied.
 - Shipped loose for field attachment.
- This astragal can be used on both rated fire doors and non-rated doors.

PRODUCT AVAILABILITY:

This product option is available for Steelcraft L, SL, B, T, TH, CE, H, HE, PW, RL, A, and AN Series doors. See the Fire Rated Products Section for application to Fire Rated doors.

Z ASTRAGAL - Inactive Leaf Mounting



PURPOSE:

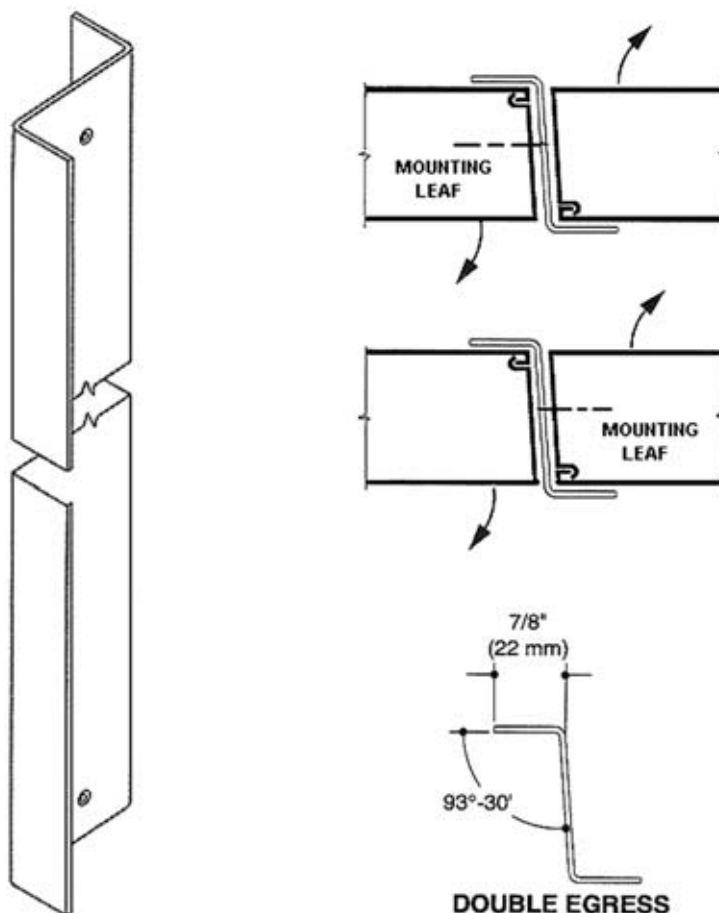
Astragals are used to close the gap between pairs of doors. The astragal seals the opening from weather, light, and in some cases, sound. Security requirements dictate the appropriate application.

APPLICATION:

- This astragal is normally supplied with pairs of Steelcraft doors.
- This is a handed product; it has the same hand as the inactive door leaf.
- Attachment is made to the inactive door leaf, with the sheet metal screws supplied.
- Shipped loose for field attachment.
- Active Leaf Mounting or Double Egress Mounting, must be called-out separately on the order.
 - The astragal is formed to match the bevel of the door.
 - When mounted to an active leaf or double egress leaf, the astragal forming is reversed.
- This astragal can be used on both fire rated and non-rated doors.

PRODUCT AVAILABILITY:

This product option is available for Steelcraft L, SL, B, T, TH, H, HE, PW, RL, A, and AN Series doors. See the Fire Rated Products Section for application to Fire Rated doors.

Z ASTRAGAL - Double Egress Mounting**PURPOSE:**

Astragals are used to close the gap between pairs of doors. The astragal seals the opening from weather, light, and in some cases, sound. Security requirements dictate the appropriate application.

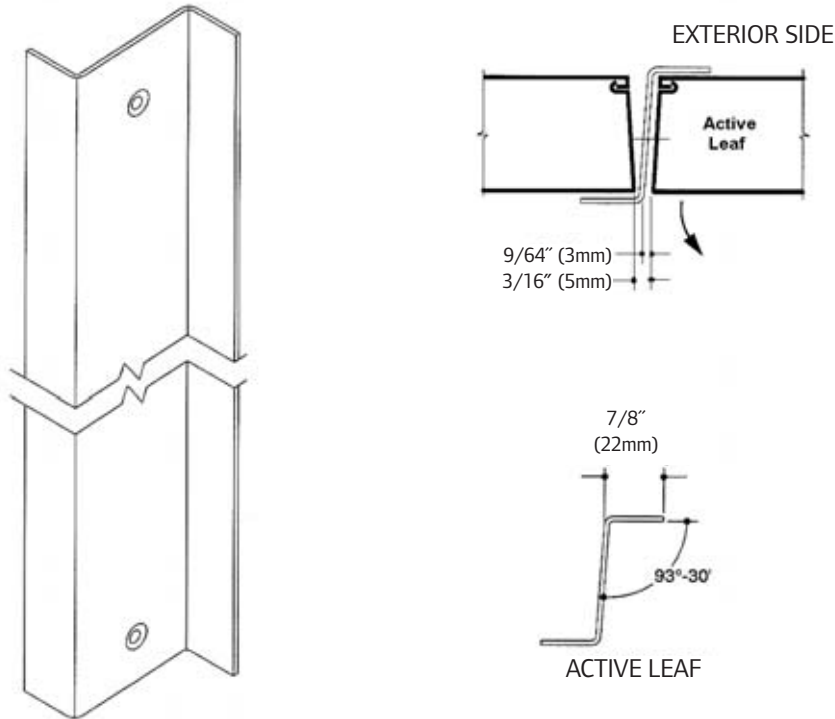
APPLICATION:

- Required on all three (3) Hour Rated Double Egress openings. Astragal must be ordered separately.
- This is a handed product; it has the same hand as the active leaf.
- The astragal is blank, with no hardware cutouts.
- Shipped loose for field attachment, with the sheet metal screws supplied.
- The astragal can be attached to either leaf as shown, as it does not impede operation.
 - Can be used on pairs of doors with Vertical Rod Exit devices on both leaves.
 - This astragal can also be used on 1-1/2 and 3/4 hour rated Double Egress openings although it is not required to meet the label requirements.
- This astragal can not be used on the active door leaf or inactive door leaf of a conventional pair of doors due to reverse forming and no hardware cutouts.

PRODUCT AVAILABILITY:

This product option is available for Steelcraft L, SL, B, T and CE Series doors. See the Fire Rated Products Section for application to Fire Rated doors.

Z ASTRAGAL - Active Leaf Mounting



PURPOSE:

Astragals are used to close the gap between pairs of doors. The astragal seals the opening from weather, light, and in some cases, sound. Security requirements dictate the appropriate application.

APPLICATION:

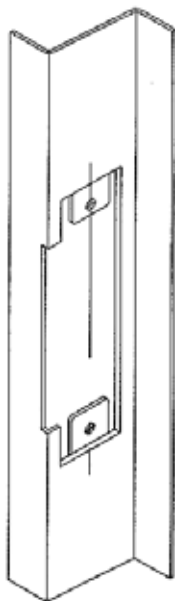
- This astragal requires a special call-out when ordered.
- This is a handed product; it has the same hand as the active door leaf;
- Shipped loose for field attachment, with the sheet metal screws supplied;

This astragal can not be attached to an inactive door leaf or a double egress door because of the hardware cutouts;

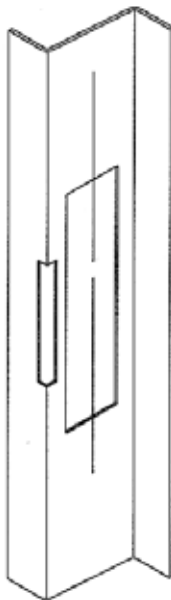
- The lock and strike type being used affects the astragal since cutouts are required for the lock front and strike lip. The notching for the strike lip is done in the field by others.
- The lock front must be shimmed to insure that the lock front seats flush with the astragal.
- This astragal can be used on both fire rated and non-rated doors.

PRODUCT AVAILABILITY:

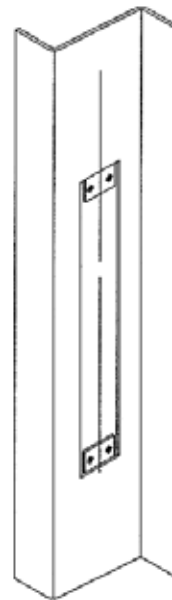
This product option is available for Steelcraft L, SL, B, T, CE, A, and AN Series doors. See the Fire Rated Products Section for application to Fire Rated doors.

Z ASTRAGALS - Hardware Preparations

Strike Preparation
INACTIVE LEAF



Lock Front & Strike Preparation
ACTIVE LEAF



Flush Bolt Preparation
INACTIVE LEAF

PURPOSE:

Astragals are used to close the gap between pairs of doors. The astragal seals the opening from weather, light, and in some cases, sound. Security requirements dictate the appropriate application. Hardware applications determine the appropriate preparation(s).

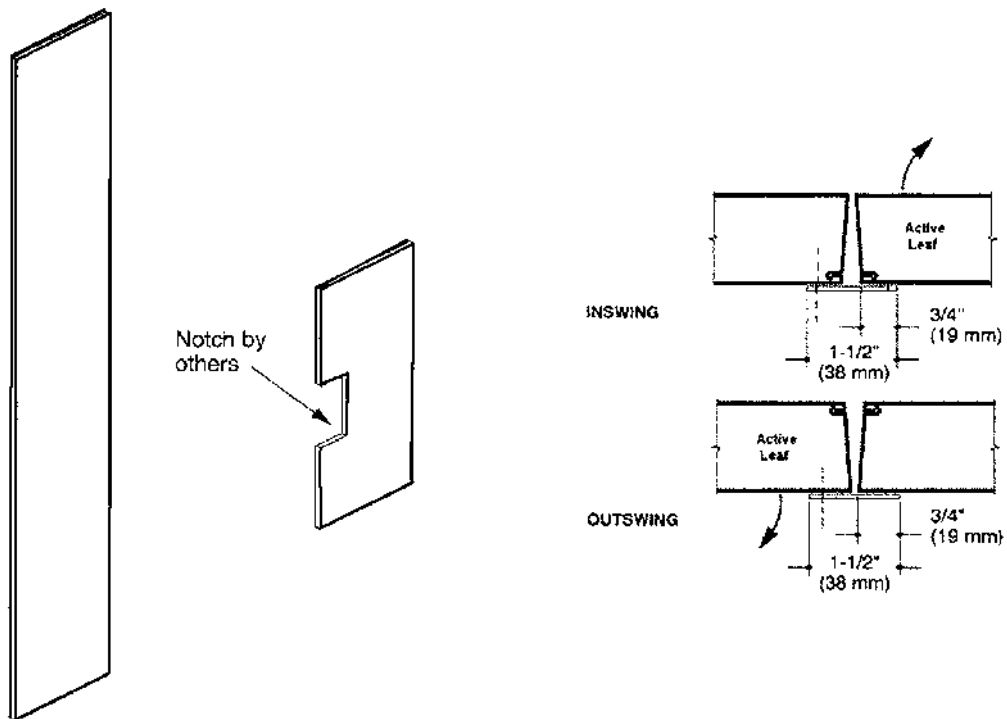
APPLICATION:

- **Strike Preparations:** This is the conventional strike preparation in an astragal mounted to the inactive leaf. The astragal has mounting tabs pierced from the base metal. The tabs are drilled and tapped for the screws supplied by the hardware manufacturer (with the strike). The type of strike being used must be specified.
- **Lock Front & Strike Preparations:** This is the type of cutout required for an astragal that is mounted to the active leaf. The cutouts are clearance holes for the lock front. The notch required for the strike lip is made in the field by others. The lock type being used must be specified.
- **Flush Bolt Preparations:** When mounted to the inactive leaf, the astragal is prepared at the top and the bottom for flush bolts (manual or automatic) when they are specified as the locking device for the inactive leaf. The preparation consists of tabs stamped out of the base metal. The tabs are drilled and tapped for the screws supplied by the flush bolt manufacturer. If surface bolts are used, this preparation is not required.

PRODUCT AVAILABILITY:

These hardware preparations are available in all Steelcraft Z type astragals.

FLAT PLATE ASTRAGALS - Exposed Fastening



PURPOSE:

Astragals are used to close the gap between pairs of doors. The astragal seals the opening from weather, light, and in some cases, sound. Security requirements dictate the appropriate application.

APPLICATION:

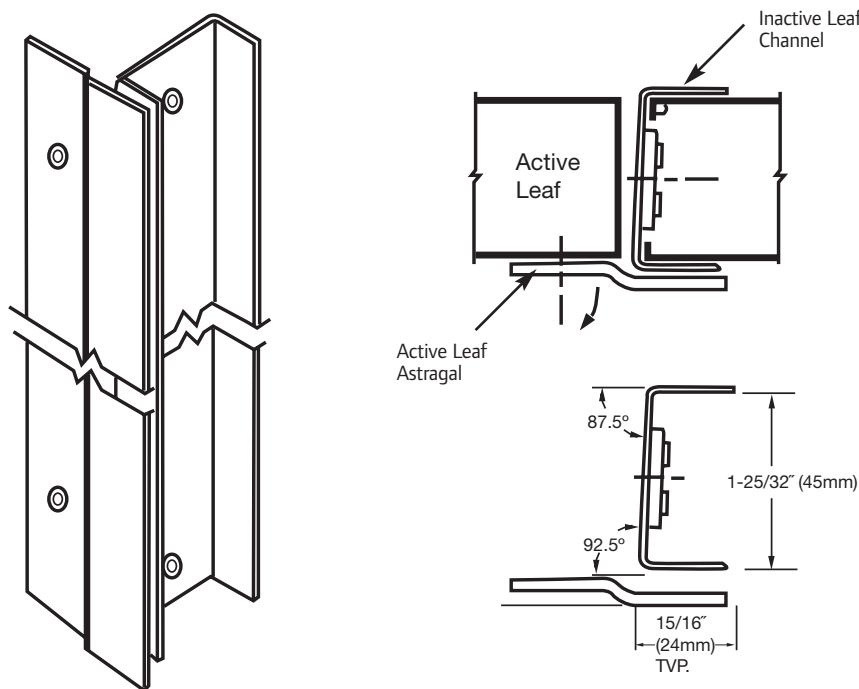
- Attached to the outside of the active leaf on swing-out doors
- Attached to the outside of the inactive leaf on swing-in doors
- The astragal is a 14 gage (1.7mm) steel part; attached by using screws or by welding to the proper door leaf
- For this type of astragal, a wide inactive leaf is recommended
- When a conventional lock and strike are used, notching for the strike lip is performed in the field by others
- See Hardware Preparations Section for strike, lock front and flush bolt preparation

PRODUCT AVAILABILITY:

This product option is available for Steelcraft L, SL, B, T, CE, A, and AN Series doors. See the Fire Rated Products Section for application to Fire Rated doors.

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2 PIECE ASTRAGAL - Applications



APPLICATION:

The 2 piece astragal is an alternate active leaf astragal. It allows for using the flushbolt and strike clearance holes on standard inactive leafs and providing an exterior bar type astragal.

PURPOSE:

Astragals are used to close the gap between pairs of doors. The astragal seals the opening from weather, light, and in some cases, sound. Security requirements dictate the appropriate application.

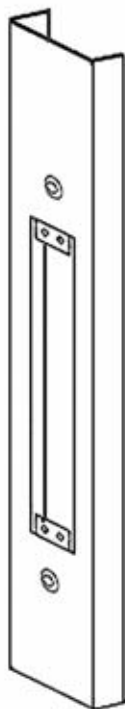
APPLICATION:

- This is a handed product; it has the same hand as the inactive door leaf
- For this type of astragal, standard width inactive leaf is recommended
- Shipped loose for field attachment
- The 14 gage galvanized channel section is mounted to the inactive leaf with the sheet metal screws supplied
- The 12 gage (2.5mm) galvanized flat bar section is mounted to the pull side face of the door with the sheet metal screws provided
- This astragal can be used on both rated and non-rated doors.

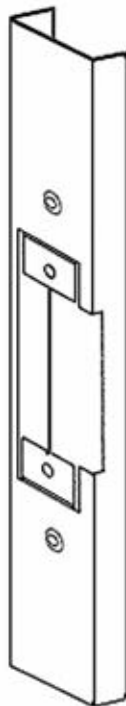
PRODUCT AVAILABILITY:

This product option is available for Steelcraft L, B, T, CE, A, and AN Series doors. See the Fire Rated Products Section for application to Fire Rated doors.

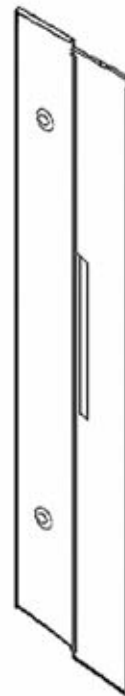
2 PIECE ASTRAGAL - Hardware Preparations



**Flushbolt Preparation
Inactive Leaf Channel**



**Strike Preparation
Inactive Leaf Channel**



**Strike Lip Preparation
Active Leaf Astragal**

PURPOSE:

Astragals are used to close the gap between pairs of doors. The astragal seals the opening from weather, light, and in some cases, sound. Security requirements dictate the appropriate application. Hardware applications determine the appropriate preparation(s).

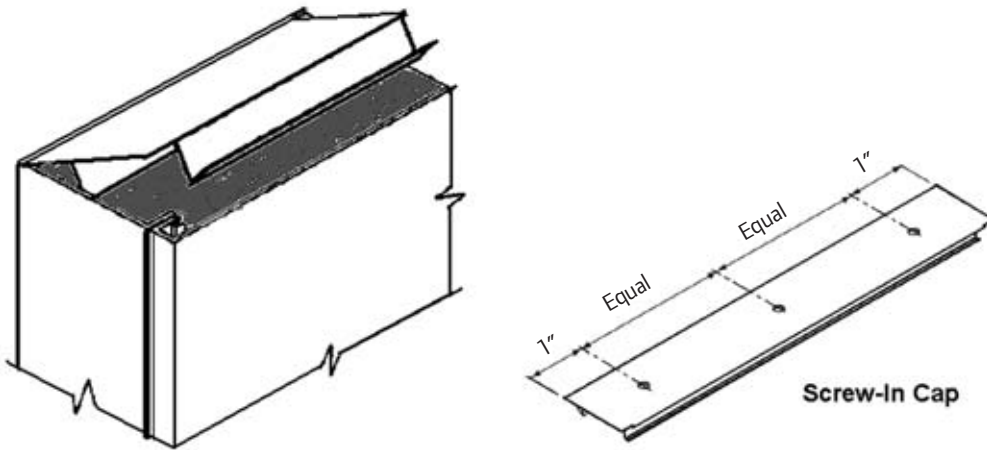
APPLICATION:

- Flush Bolt Preparations: When mounted to the inactive leaf, the astragal is prepared at the top and the bottom for flush bolts (manual or automatic) when they are specified as the locking device for the inactive leaf. The preparation consists of tabs stamped out of the base metal. The tabs are drilled and tapped for the screws supplied by the flush bolt manufacturer. If surface bolts are used, this preparation is not required.
- Strike Preparations: This is the conventional strike preparation in an astragal mounted to the inactive leaf. The astragal has mounting tabs pierced from the base metal. The tabs are drilled and tapped for the screws supplied by the hardware manufacturer (with the strike). The type of strike being used must be specified.
- Strike Lip Preparations: This is the type of cutout required for an astragal that is mounted to the active leaf. **The notch required for the strike lip is made in the field by others.** The lock type being used must be specified.

PRODUCT AVAILABILITY:

These hardware preparations are available in all Steelcraft 2 Piece astragals.

Top & Bottom Caps



PURPOSE:

When installed on exterior outswing doors, Top and/or Bottom Caps shield the recessed 14 gage (1.7mm) galvanized steel top and bottom closure channels from unwanted moisture penetration. If required, top caps may be sealed with caulk in the field by others. To prevent the build-up of moisture on the interior of the door, the bottom cap should never be caulked.

APPLICATION:

The top and/or the bottom of doors can be closed by installing a 24 gage [0.020" (0.5mm)] galvanized Screw-In Cap (recommended application) with three (3) No. 8 x 1-1/2" flat head sheet metal screws.

PRODUCT AVAILABILITY:

This optional is available for the following Steelcraft Series doors:

20 ga. (0.8mm), 18 ga. (1.0mm), 16 ga. (1.3mm) and 14 ga. (1.7mm) L, B, CE and T Series;

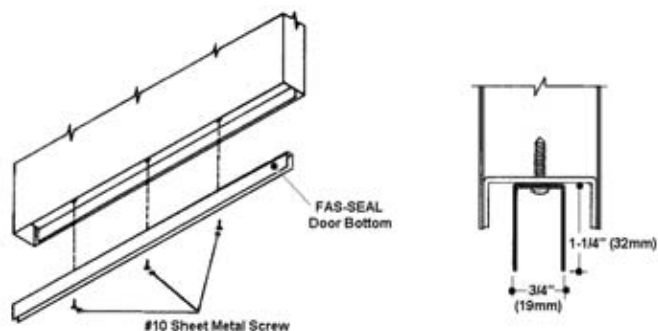
20 ga. (0.8mm) and 18 ga. (1.0mm) SL Series;

16 ga. (1.3mm) and 14 ga. (1.7mm) H Series;

16 ga. (1.3mm) HE Series, and

16 ga. (1.3mm) A and AN Series doors.

This option is available on Steelcraft L, SL, B, CE, H, HE, T, A and AN Series doors for non-label, or for labeled openings up to 3 hour Fire Ratings.

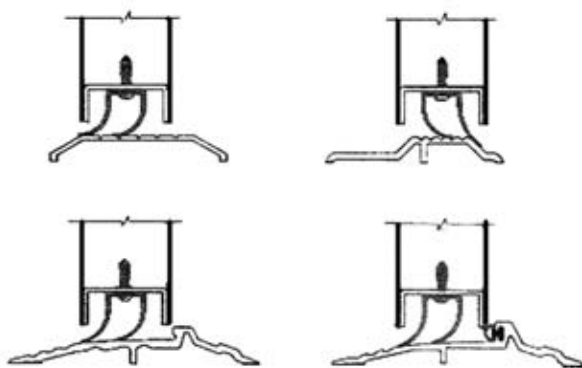
FAS-SEAL® DOOR BOTTOM SWEEP

The combination of Steelcraft door, frame, PS074 Weatherstripping, and the FAS-SEAL Door Bottom meets the requirements of NFPA 105, Smoke Control Standard, for both warm, and ambient room temperatures.

The ASTM E283 Air Infiltration Test was conducted on doors with and without a FAS-SEAL Door Bottom. A Non-weatherstripped frame with a 5/8" (16mm) high threshold was used. The results of these tests were:

Without FAS-SEAL8.77 CFM/FT

With FAS-SEAL.....4.71 CFM/FT



- CFM/FT = Cubic Feet Per Minute Per Lineal Foot of Crack
- Tests were conducted by a nationally recognized test and research laboratory.

PURPOSE:

The concealed double sealing sweep conforms to sill variances, providing an effective seal. The FAS-SEAL Door Bottom is made from a synthetic material that is impervious to the elements, is capable of withstanding extreme temperatures and is Fire Rated.

APPLICATION:

FAS-SEAL Door Bottoms are installed to the bottom channel with No.10 x 3/4" Pan Head SMS

- Doors sized from 2'-0" (610mm) wide to 3'-0" (914mm) wide: apply 3 screws furnished through the 3 holes provided in the FAS-SEAL Door Bottom into the holes provided in the door bottom channel
- Doors sized from 3'-4" (106mm) wide to 4'-0" (1219mm) wide:
 - apply 4 screws furnished through the 4 holes provided in the FAS-SEAL Door Bottom into holes field drilled by others, or
 - apply 4 No. 10 x 3/4" self-drill and tap screws (by others) through the four holes provided in the FAS-SEAL Door Bottom into holes field drilled by others or by self-drill and tap screws

PRODUCT AVAILABILITY:

Sweeps for doors 2'-0" through 4'-0" in width are available from factory inventory and are used on Steelcraft L, SL, B, T, TH, CE, H, HE, PW, RL, A & AN Series doors.

