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Hollow Metal Door and Frame Catalog



A nighttime photograph of the Charlotte, North Carolina skyline. The image shows several illuminated skyscrapers, including the Bank of America Corporate Center, which is the tallest building in the city. The lights from the buildings create a vibrant contrast against the dark night sky. In the foreground, there are silhouettes of trees and a parking lot with some cars.

IMPERIAL
DOOR & FRAME

CHARLOTTE, NC

COMPANY PROFILE

Who we are

A professional manufacturer located at Charlotte, NC lead by a team with a wide range of experience in producing hollow metal doors and frames for both commercial and industrial use. We have a proven strong management team who have **high-performance in producing Hollow Metal Doors & Frames and with many other variety selection and specifications in our manufacturing range.** Our goal is to provide a one stop shop for all of your hollow metal needs at record fast ship times. We are always ready to serve and meet with customers' demand for any design, size, performance and quality.

Why Imperial Door & Frame

Core Value

PROFESSION, PASSION, REPUTATION, LOYALTY, QUALITY, SAFETY,
EXCEED EXPECTATIONS, EXCELLENCE IN EXECUTION

Advantage

- CNC flexible manufacturing
- Intelligent & Robot Welding
- Quick Ship Programs
- Automatic Painting Line
- Bespoke Size & Design Freedom
- Digital Bending & Punching
- Stability in Fabrication and Quality

**EVERYTHING YOU NEED IS INCLUDED,
EASY FROM START TO FINISH**

GENERAL

Selecting the right door to complement your new construction, renovation or decorating project is particularly important. Our doors are just the finishing touch that will dramatically bring your project to life.

We're almost manufacturing the most complete line of steel doors and frames, including Non-rated Door, UL listed FR180 min Door, Storm Door, Acoustic Door (Sound Transmission Control), Flush/Embossed Door, Lead Lined Door, with KD or Welded Dry Wall / Masonry Wall / Double Egress Frame, and related Window Frame, Louver, Vision Kits series.

The hollow metal doors are widely recognized as the best value in the door industry and architecture. Most metal doors outlast their wood counterparts by over 10 years, are better insulated, vandal resistant, and longer lasting than timber doors. These doors are most used on the exteriors of a commercial building, and on fire rated openings as they are inexpensive, and can handle ratings up to 3 hours.

Our doors & frame system are made using a hollow metal sheet that is then re-enforced and filled with various insulation. Therefore, we will manufacture and assemble by the best condition that meet the strict guidelines of the steel door institute (SDI), as well as testing from Underwriters Laboratories (UL), National Fire Protection Association (NFPA), American National Standards Institute (ANSI), and American Society for Testing and Materials (ASTM).

Whatever your application or imagination in the architecture, we're ready to meet your needs with our reliable products.

BENEFITS

- All the door and frame component in galvanized steel.
- Door edge (including flush or bevel) with continuously interlock seamless laser welding by robot, comply to the highest standard in door industry.
- KD frame, Face/Back/Continuous welded frame is available upon customer's need.
- **Special Order Program:** 6 week to West Coast or 8 week to East Coast in USA upon request.
- **Stocking hinge locations include Steelcraft, Curries, Mesker, Pioneer and CECO**
- Any hinge position, Prep., Cut-out and Reinforcement are available as per main US manufacturers.
- Shop drawing, specification list and quotation could be offered as per your project/floor plan within 72 hours.
- Max fabrication size: Door 10' height & Frame 16' height.

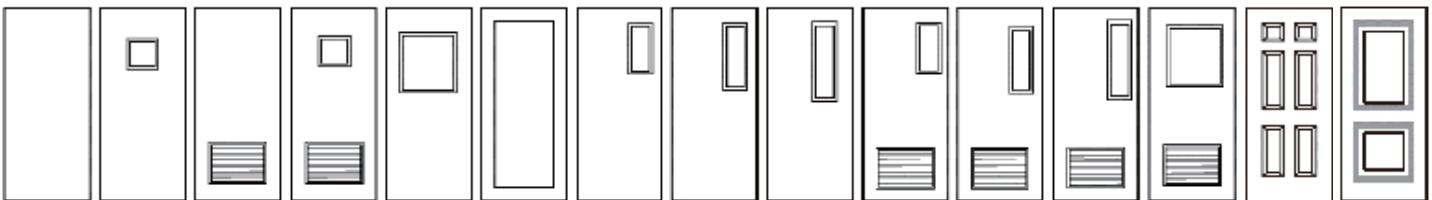
STANDARD FEATURE

- 16 & 18 gauge flush and embossed 1/2/6 panel doors
- Seamless door edge, beveled or square, Stocking Doors are Square Edge, Reversible, with lock seam edge
- Thickness: 1 3/4" Nominal, reversible
- 3 hour WHI fire, positive pressure, and smoke label
- A40 galvanized steel (G90 and stainless optional)
- Prime painted with baked on two stage epoxy resin
- 7 gauge universal hinge reinforcements, 1/4" backset
- 12 gauge closer reinforcement, (18" x 6")
- 16 gauge flush sealed top channel / inverted bottom channel (flush optional)
- Closed hinge cavity
- High density full body polystyrene
- Blank edge door includes rim exit device reinforcement
- 16 gauge 161 lock prep. or 14 gauge 86 lock prep.
- Standard Z Astragal for double doors

DOOR SPECIFICATION

Series	Type	Gauge	Core	CR/GALV	Edge	Handing	Thickness	Label	Max Size
4	Flush	16,18	Polystyrene	GALV	Corner Seam	Reversible	1 3/4"	3hr/PP/S	8'0 x 10'0

DOOR TYPE



TECHNICAL DATA:

Designation/Type Door Model Single

Door leaf thickness	1-3/4" (Standard)
Net Door leaf width	2'0" ~ 4'0"
Nominal Door leaf width	2'0" ~ 4'0"
Net Door leaf Height	6'8" 7'0" 8'0"
Nominal Door leaf Height	6'8" 7'0" 8'0"
Door clearance	Standard – 1/8" top, 3/4" bottom, 3/32" hinge edge, 1/8" lock edge.
Wall construction	Masonry wall (FR180 minutes) & Drywall wall (Limited to FR90 minutes)
Door frame construction	KD (Standard) Welded (Face weld or Continuous weld) (Single/Double rabbet, Flush, Case open, Kerf, Adjustable & Double egress)
Door frame thickness	4-3/4" ~ (121 ~ 356 mm)
Net Door frame width	Max. 4'0" (1219 mm)
Nominal Door frame width	Max. 4'0" (1321 mm)
Net Door frame height	Max. (3048 mm)
Nominal Door frame height	Max. (3099 mm)
Material	Galvanized Steel (ASTM A 653 or SGCC JIS: G3302)
Face sheet thickness	20 18 16 14 Gauge (1.0 1.2 1.4 1.8mm)
Frame steel thickness	16 14 Gauge (1.4 1.8 mm)

Labeling

- UL10 B/C, NFPA 252/80	WH 180 minute /PP/S
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Construction

- Door core	Polystyrene core (Standard)
- Door edge	Interlocking seam, Continuously Welded
- Handing	Flush (Square) or Reversible

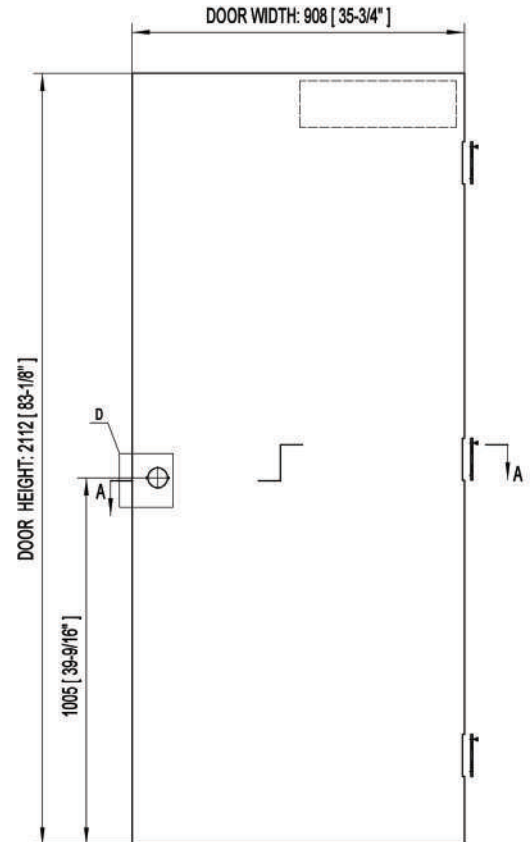
Standard hardware prep

- Typical hardware applications	(1) 161 (C-Prep), (2) M-86 Edge (3) BR-Block Reinforce, (4) DB Deadbolt, (5) IAZ Inactive w Z - Astragal
- Reinforcement	7 gauge universal hinge reinforcements
- Lock type	Cylindrical lock, Motise lock, Dead bolt, Panic device, Flush bolt Smark lock, Electrical device
- Note	Special hardware applications are available.

Optional

Stainless steel doorset	
Fire Rated Steel Vision Kits	Max. 1296 sq. inch (20~45 minute), Max. 100 sq. inch (60~90 minute), Glazing kit > 18 Gauge, Steel channel reinforcement attached to both faces around cutout. Glass type - Tempered glass (1/4"), Superlite wired glass (1/4")
Fire Rated Steel Louvers	Inverted Y blade, Max. 576 sq. inch (24" x 24", 1.5Hrs rate) 18 Gauge steel frame, channel reinforcement and blade, Mitered welded corner
Sidelite, Tansom and Window frame	Available upon request

TECHNOLOGY & INNOVATION TO
TRANSFORM
YOUR LIFE



The Seamless Choice

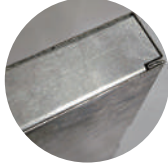
Door Construction

Lockseam

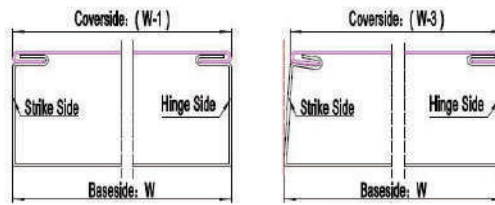
Door Edge



(Interlock Seam)



(Heavy duty-14 Gauge)

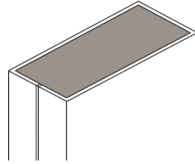


* Square or Bevel

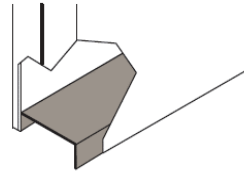
* Visible Edge Seams Welded or Seamless with Filled or Continuously Welded

(Inverted Channel - Top)

(Inverted Channel - Bottom)



(16 Gauge Standard)



3/4" D. WEEP HOLE

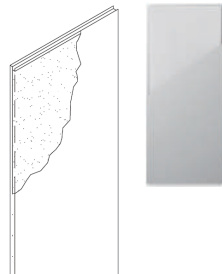
Door Insulation

Polystyrene

Core



(Standard: Polystyrene)



* Flame-Resistant

* Mineral fiberboard and Polyurethane available.

Hardware Preparations

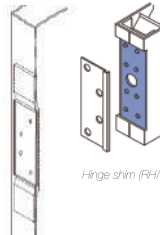
Hinge Reinforcement

C-161 Prep

M-86 Edge

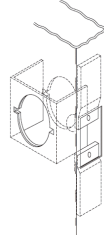
BR-Panic Reinforce

Typical Type



Hinge shim (R+L/LH change)

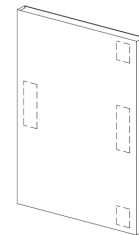
* Flush bolt cutout & Prep. available.
* Special locations, hinge & lock prep. available.



(Cylinder lock)
C-Prep



(Mortise lock)
M-Prep



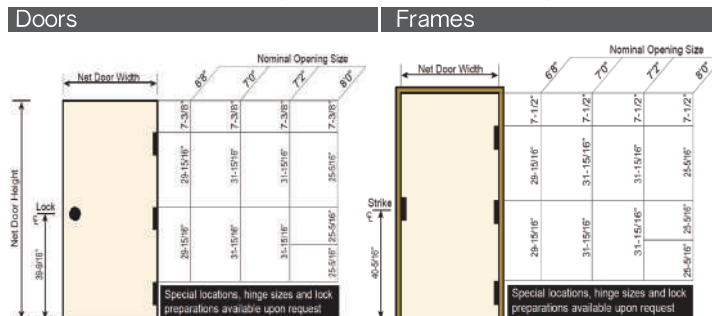
(Panic device)
BR-Prep

Hardware Locations

Available preparation designations

S.N.	Preparation description
C161	Bored/Cyl Knobset: (1 1/8" x 2 1/4" front with 2 3/4" backset)
ASA	4 7/8" ASA with lip @ standard location
M86	Edge cutout only: (1 1/4" x 8" front) Mortise lock
BR	Internal Reinforced for surface Rim Panic Device
IAZ	Flush bolt (Automatic or manual)

Standard Locations (Steelcraft Locations)

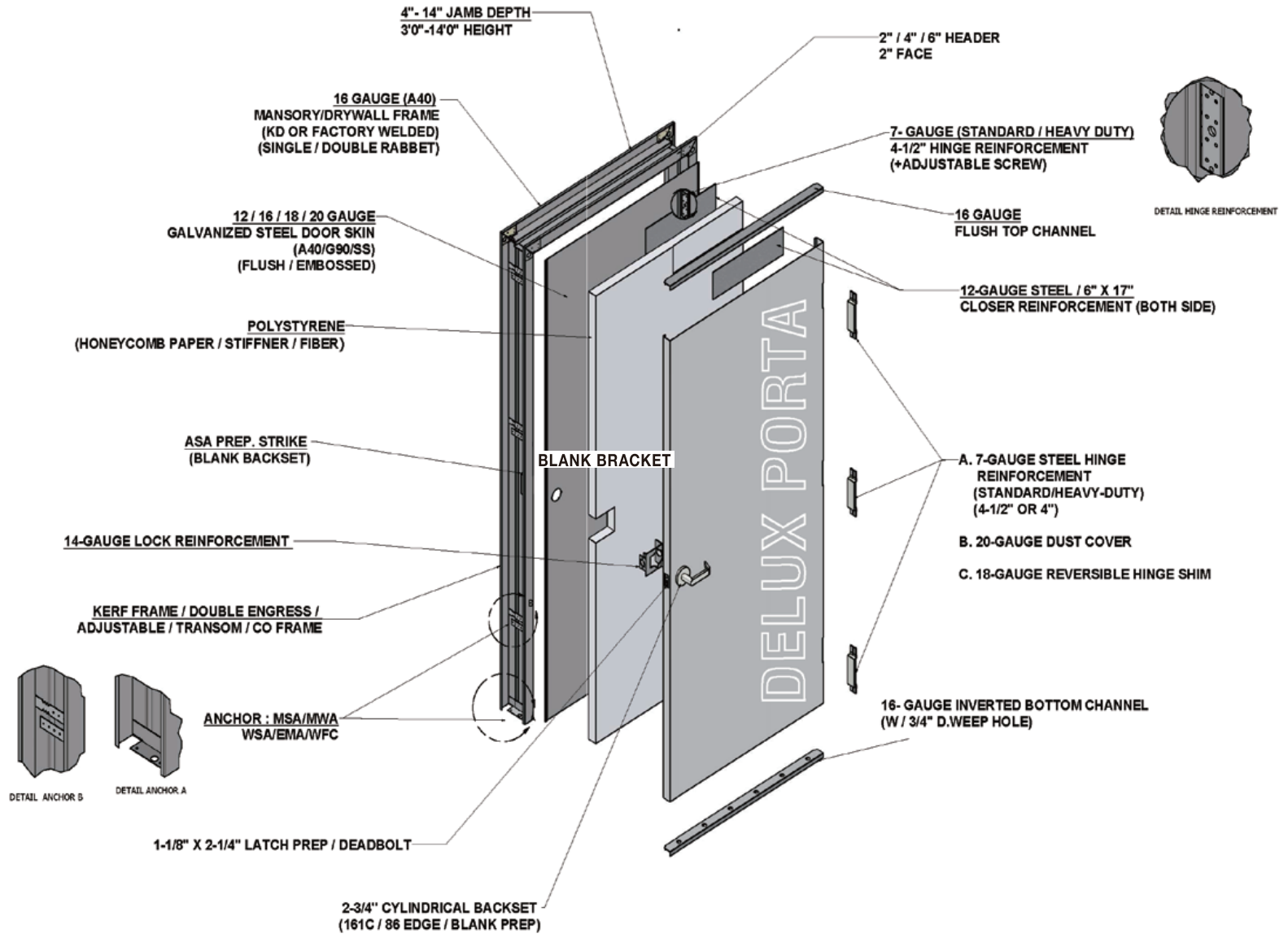


1 3/4" Doors and frames with 4 1/2" x 4 1/2" hinges * Other locations & sizes are available as below chart:

SC	Steelcraft Location (non handed)	CE	Ceco Location (non handed)
CU	Curries Location (non handed)	PI	Pioneer Location
ME	Mesker Location		

All dimensions are current at the time of publication. Refer to SDI-129 for updated dimensions.

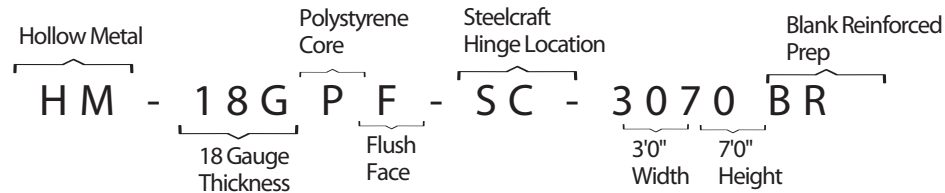
Commercial Doors



COMPLICATED BUILDING CASES
FROM ONE SOURCE

BUILD YOUR PART NUMBER

Part numbers are generated based on the specifications of the door. Please see below for a part number breakdown and example. If you need a 3' x 7' 18-gauge, polystyrene filled flush door with Steelcraft hinge locations and a blank prep for a panic bar, you will order this part number: HM-18GPF-SC-3070-BR



Thickness

- 16G - 16 Gauge
- 18G - 18 Gauge

Core

- P - Polystyrene
- H - Honeycomb

Hinge Location

- CE - Ceco
- CU - Curries
- ME - Mesker
- PI - Pioneer
- SC - Steelcraft

Size

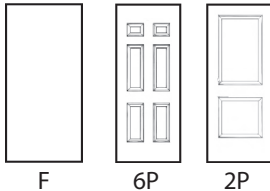
Widths

- 2'0"
- 2'4"
- 2'6"
- 2'8"
- 2'10"
- 3'0"
- 3'4"
- 3'6"
- 3'8"
- 4'0"

Heights

- 6'8"
- 7'0"
- 8'0"

Door Face

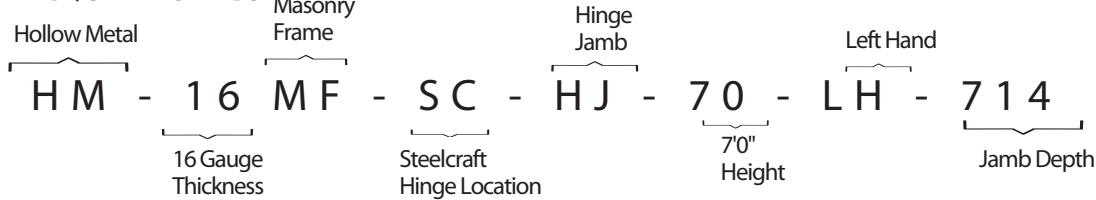


Prep

- BR - Blank Panic Reinforced
- C - Cylindrical
- M - Mortise
- IAZ - Inactive Door with Z Astragal

BUILD YOUR PART NUMBER

HINGE/STRIKE JAMBS



HEADERS



Thickness

- 16G - 16 Gauge
- 18G - 18 Gauge

Hinge Location

- CE - Ceco
- CU - Curries
- ME - Mesker
- PI - Pioneer
- SC - Steelcraft

Jambs

- HJ - Hinge Jamb
- SJ - Strike Jamb

Size

Widths*

- 2'0"
- 2'4"
- 2'6"
- 2'8"
- 2'10"
- 3'0"
- 3'4"
- 3'6"
- 3'8"
- 4'0"

Heights

- 6'8"
- 7'0"
- 8'0"

Handing

- LH - Left Hand
- RH - Right Hand

Frame Type

- MF - Masonry Frame
- DF - Drywall Frame

Headers

- SH - Single Header
- DH - Double Header

* Sizes shown are for single doors only; equal pairs of doors use twice the width indicated. Pairs of doors can consist of two unequal widths.

Jamb Depth

- 625 = 3 1/4"
- 675 = 3 3/4"
- 725 = 4 1/4"
- 775 = 4 3/4"
- 825 = 5 1/4"
- 875 = 5 3/4"

General Information

Our framing systems are designed to fit virtually all construction requirements for commercial and institutional building applications. Their construction, durability and flexibility have been proven in both operation and physical testing of all types.

Frame Sizing Options

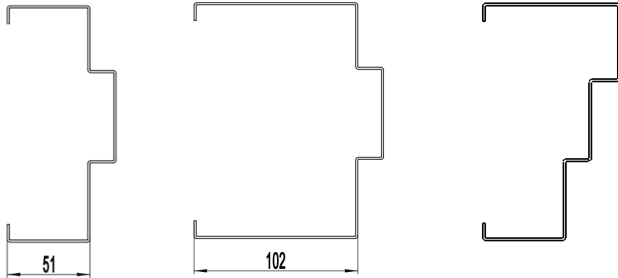
Series	Max. Opening Size		Jamb depth (Profile)		Standard dimensions (Variations available)			Corners
	Single	Pair	Double rabbet		Face	Stop	Return	Standard
			Min.	Max.				
16 Gauge	4'0" x 8'0" (1321 mm x 4166 mm)	8'0" x 8'0" (2540 mm x 4166 mm)	4-3/4"	8-3/4"	2" (50mm)	3/4" (19mm)	7/16" (11mm)	Square cur for welded corners

Frame Options:

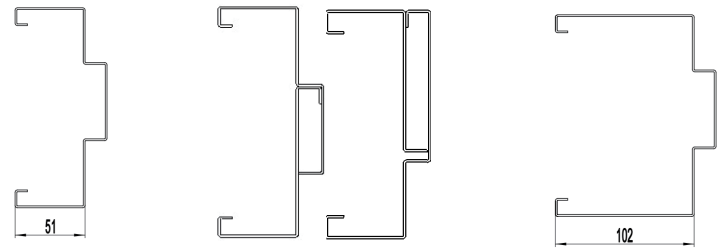
Series	Frame profile	Corner connections		4" Heads
		KD (Knock-down)	Set-up & weld	(102mm) Face
Masonry	Typically for walls 4 1/2" (114 mm) thickness or greater.	4 interlocking corner tabs per factory die-miter. See the KD Corner Detail	Available when specified, and in accordance with ANSI A250.8-2017 (SDI 100).	Die-mitered for use with 2" (51 mm) face double rabbet jambs. Available when specified for KD or SUA applications. Square cur for welded corners
Drywall		Factory Die- Mitered, Soffit Tab included	Standard Saw Cut and welded, and in accordance with ANSI A250.8-2017 (SDI 100)	

Typical Frame Profiles

Masonry Wall



Drywall



MF(Masonry Frame)

MF(Masonry Frame 4" Header)

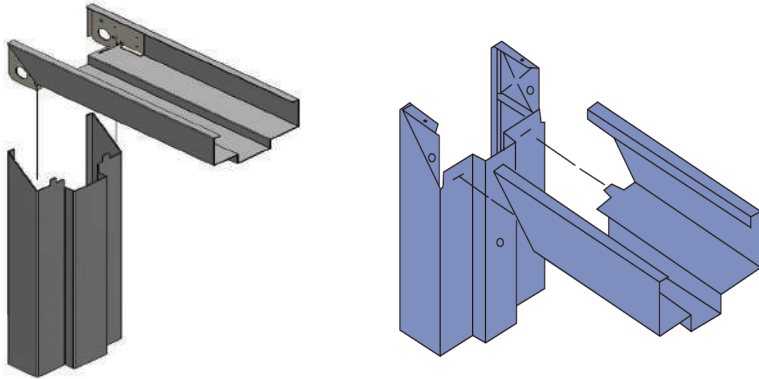
DEF(Double Egress Frame)

DF(Drywall Frame)

ADF

DF(Drywall_4" Header)

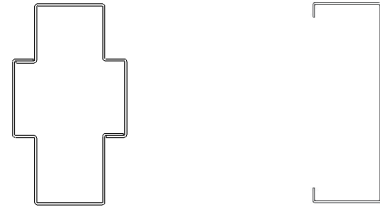
Miter Corner Joint



Masonry

Drywall

Typical sill and wall anchors



MUF(Mullion Frame)

COF(Case Open)

Typical sill and wall anchors (Drywall)

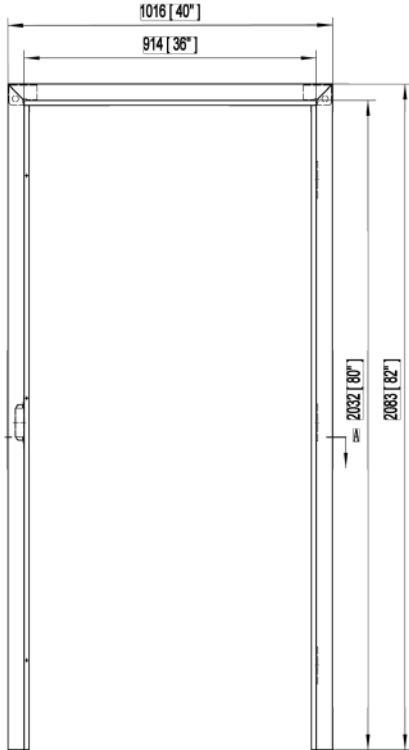


Compression Anchors

Countersunk Hole

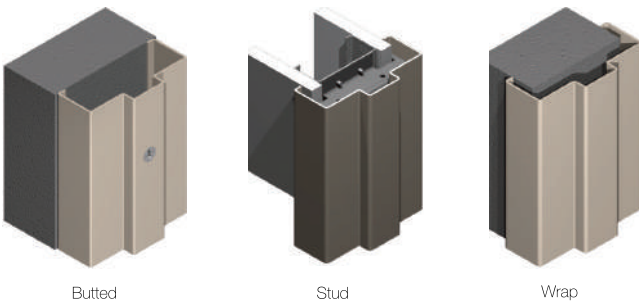
General Information

Typical Frame Elevation (4-1/2" Hinge)



3 hinges (1 1/2 pair) are standard on 6'8", 7'0", 7'2", and 7'6"
 *Standard = 3/4" undercut (Special in 3/8" undercut)

Installation & Applications:



Strike Prep.



ASA

* ANSI 4-7/8" universal A115.1 and A115.2

Hinge Prep. (7-Gauge)

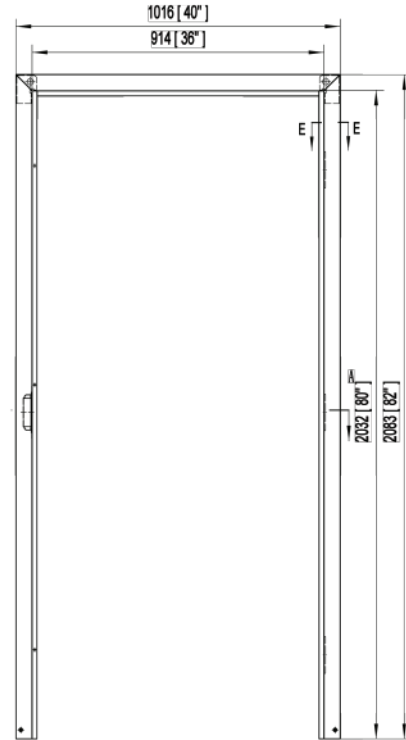


4 1/2" Standard

* ANSI A156.7, 4-1/2"

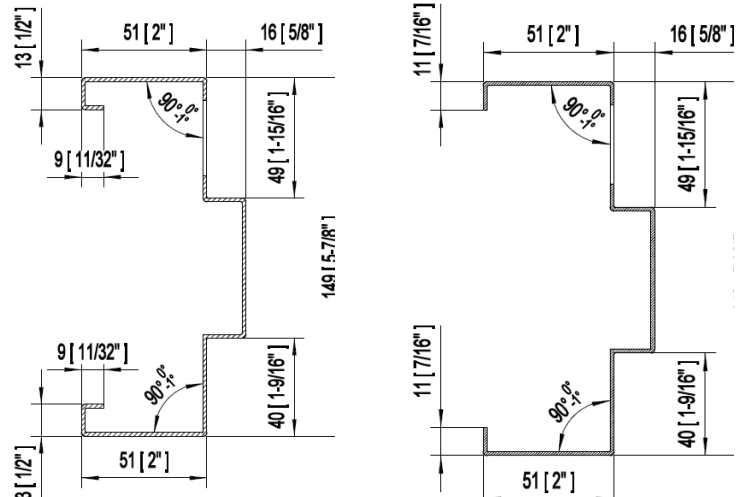
Hinge and strike locations available

- Steelcraft, Amweld, Ceco, Curries, Deansteel, Mesker, Pioneer, Republic



*4 hinges (1 1/2 pair) are standard on over 7'6" in height and up to and including 10'0" in height.
 Standard = 3/4" undercut (Special in 3/8" undercut)

Standard Size and Feature



- 16, 18, 20 gauge (CR or A40, A60 & G90 galvanized)
- 1-1/2 Hrs Warnock Hersey fire label
- Unequal Rabbet
- 2" face (or 4" face CO head)
- 5/8" high stops, 1/2" return
- Knocked down with exact fit corners
- 7 gauge universal hinge reinforcements, standard / heavy duty
- Standard in 5-7/8", 6-1/4", 6-3/4", 7-1/4", 7-3/4", 8-1/4", 8-3/4" jamb depth
- 4-7/8" universal strike preparation
- Screw adjusting compressor anchors
- 9/32" silencer preparations
- Knocked down

Drywall Frame

- 16, 18, 20 gauge (CR or A40, A60 & G90 galvanized)
- 3 Hrs Warnock Hersey fire label
- Unequal Rabbet
- 2" face (or 4" face CO head)
- 5/8" high stops, 1/2" return
- Knocked down with exact fit corners
- 7 gauge universal hinge reinforcements, standard / heavy duty
- 4" ~ 13" jamb depth
- 4-7/8" universal strike preparation
- Anchors for masonry, wood & metal stud walls
- 9/32" silencer preparations

Masonry Wall Frame

Hollow Metal Frames

Frame Construction

H e a d e r



Strike Jamb

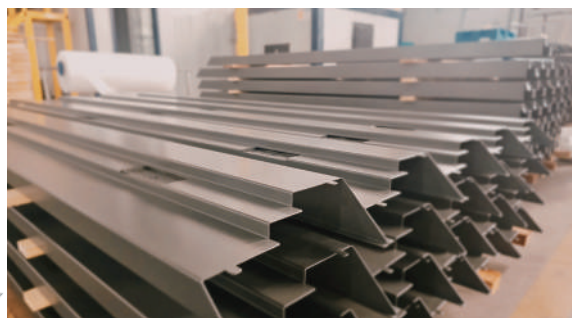
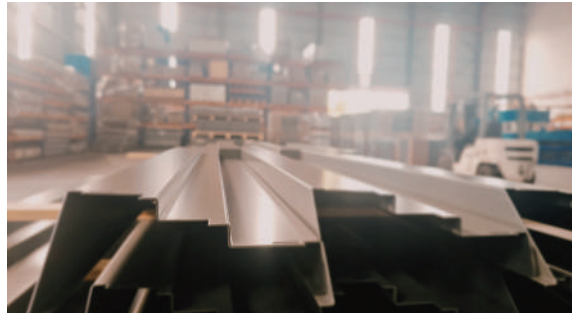
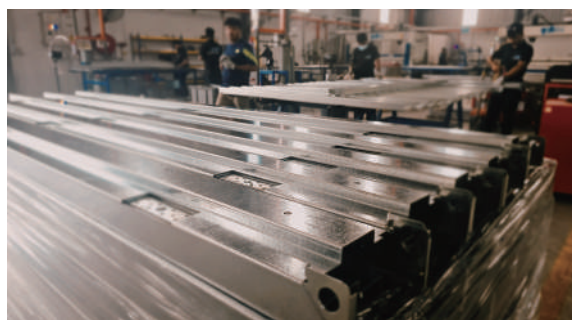
Frame Construction
 12/14/16-gauge, galvanized A40 steel to be break - formed to the design specifications required. Frames shall be furnished knocked down or welded (laser face welded and continuous welded available upon request), ground smooth. Mitered corners have a strong, secure, four-tab interlocking system to maintain neat mitered joints and corners. Standard frame to have 1/2" returns; standard stop heights to be 5/8" high. Soffit dimensions can vary. Frames can be single or double rabbeted. Frames will be supplied with welded on sill anchors.

Installation & Applications
 Frames to be installed in accordance with ANSI A250.11 - 2001. Our standard hollow metal frames are to be used in a number of applications including masonry, wood stud and steel stud construction.
Hardware Reinforcements
 DP hollow metal frames to be furnished with 4 - 1/2" (standard) or 5" (heavy weight) by 7-gauge steel hinge reinforcements and be adequately reinforced for all hardware. Standard arm or parallel closer reinforcements available upon request. Strike and hinge reinforcements are protected by steel dust cover. Single frames are prepared to receive (3) rubber mutes.

Finish
 We offered water-based or oil-based color painting frames, or color powder coating as well. The client will receive a durable, flow coated, baked on finish. We may offer primer paint, full finish paint and powder coat as all RAL color charts.

Compliance
 All our steel frames components comply with ANSI A250.8(R2008). Fire labeling in accordance with NFPA rules and available by WHI (Intertek).

Hinge Jamb



Sidelite and Transom

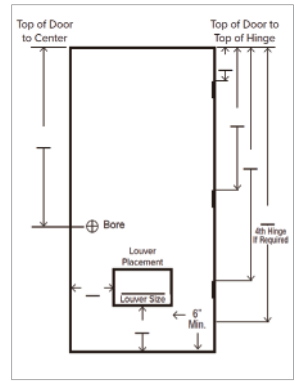
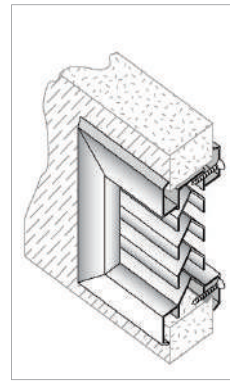




Steel / Wood Door Louvers



Steel Louver



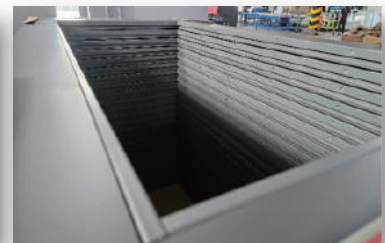
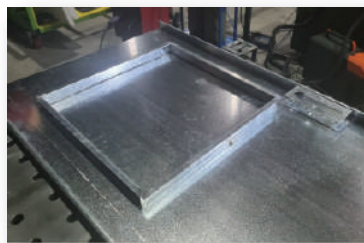
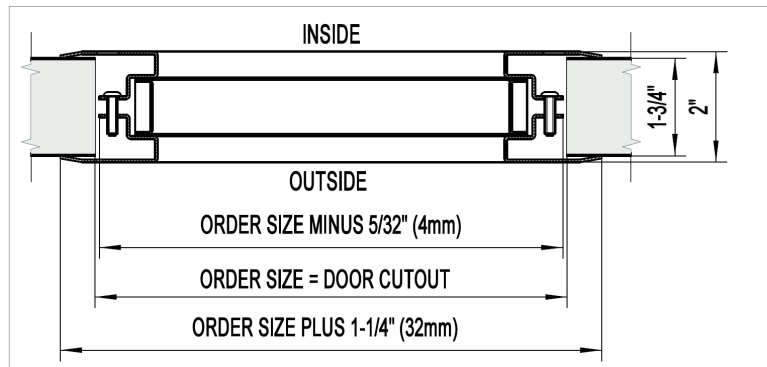
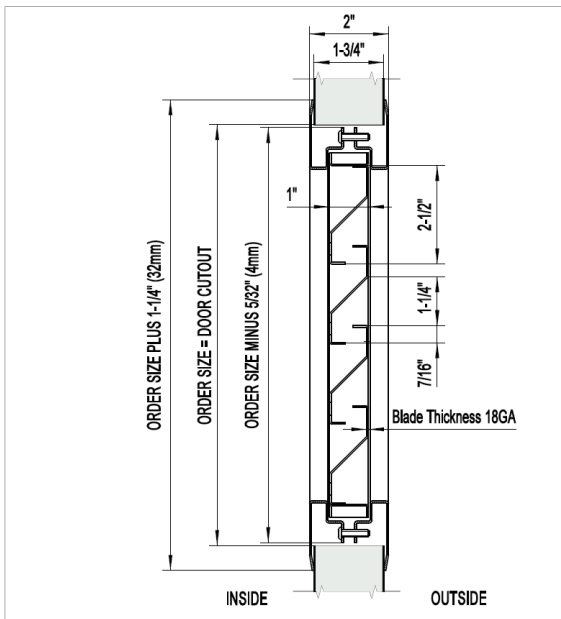
Standard Size

Louver Size	Door	Finish
18" x 18"	1-3/4"	Powder Coating Bronze, Grey
24" x 12"	1-3/4"	
24" x 24"	1-3/4"	
Punch Louver	-	

Specification

- * 18 or 20 Gauge galvanized steel frame and blade
- * Mitered full welded corner
- * Phillips pan head screw 8" x 3/4" included
- * Punched Louvers as per customer design

Profile



OPTIONAL DOOR COMPONENTS



Filler Plate-86 Edge



Filler Plate-161C



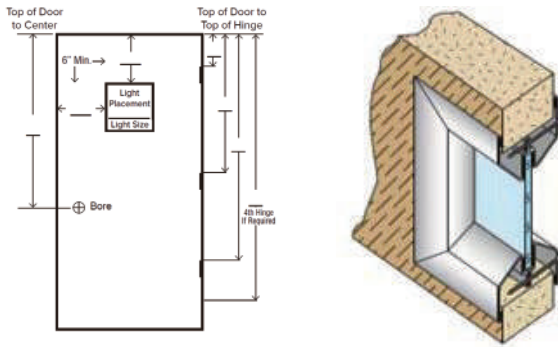
Flush Bolt Filler Plate



Hinge Shim



Filler Plate Lock Edge



Standard Size

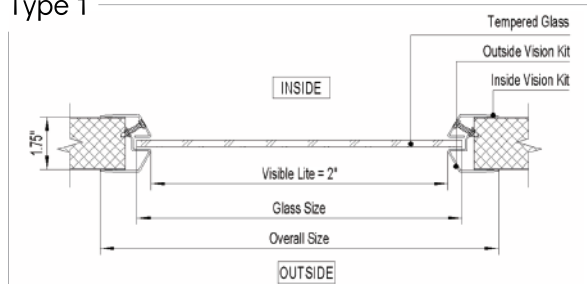
Vision	Glass	Door	Remark
6" x 27"	4" x 25"	1-3/4"	Powder Coating Bronze, Grey
7" x 22"	5" x 20"	1-3/4"	
12" x 12"	10" x 10"	1-3/4"	
24" x 30"	22" x 28"	1-3/4"	
24" x 60"	22" x 58"	1-3/4"	Special Size

Specification

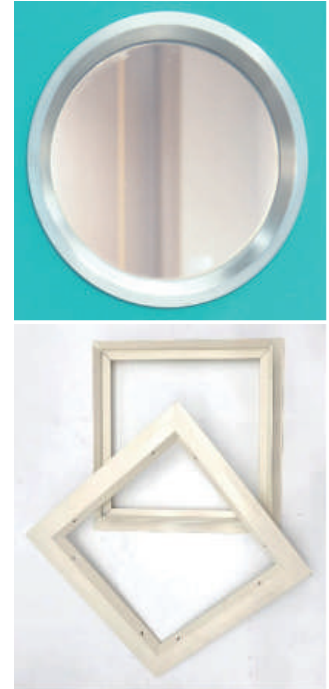
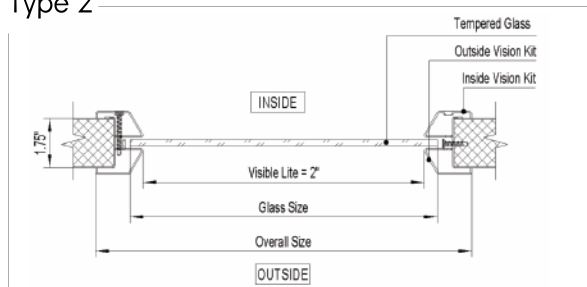
- * 18 or 20 Gauge galvanized steel
- * Mitered full welded corner
- * Phillips pan head screw 8" x 3/4" included
- * Glass thickness 3/16" to 1/4"
- * Standard in tempered glass, wired glass optional

Profile

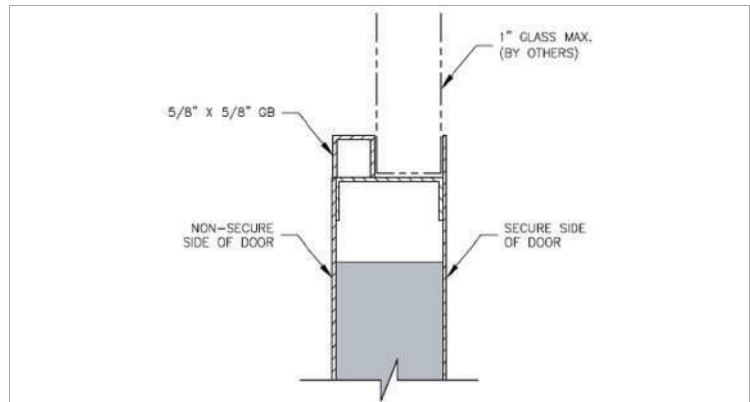
Type 1



Type 2



(Optional) Type 3 Integral Lite Kit - Special Order Only



Custom design and fabrication for your unique requirements.



OPTIONAL DOOR COMPONENTS



Flat-Astragal

Z-Astragal (ASA/FB)

Fabrication & Technology

PRECISION+

Guillotine Shearing

Start from ONE piece of steel sheet...



CNC Punch Machine

CNC Punch brought to us the flexibility and accuracy...



CNC Panel Bender

Automatic Panel Bender



Always make our doors **DIFFERENT**

Fiber Laser Auto-Welding Robot

Laser Welding make doors **strong** and good **quality**.



This is the **highest** standard in steel door industry...

INNOVATION

1500 Ton Embossing Machine

SIMPLICITY+



We **EMBOSS** variety of classic design on steel sheet...



Fiber Laser Cutting Machine

Laser cutting makes our frames **QUICK** and **SIMPLY...**

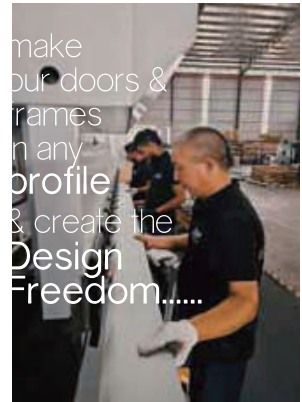


CNC Press Brake



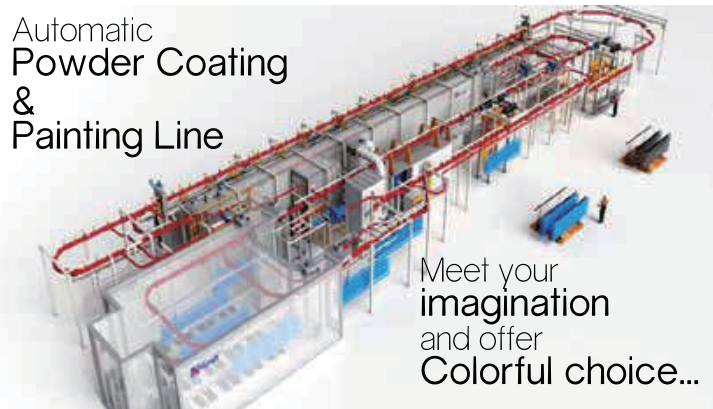
CNC Press Brake

make our doors & frames in any profile & create the Design Freedom.....



Painting & Powder Coating Line

Automatic Powder Coating & Painting Line



Meet your imagination and offer Colorful choice...

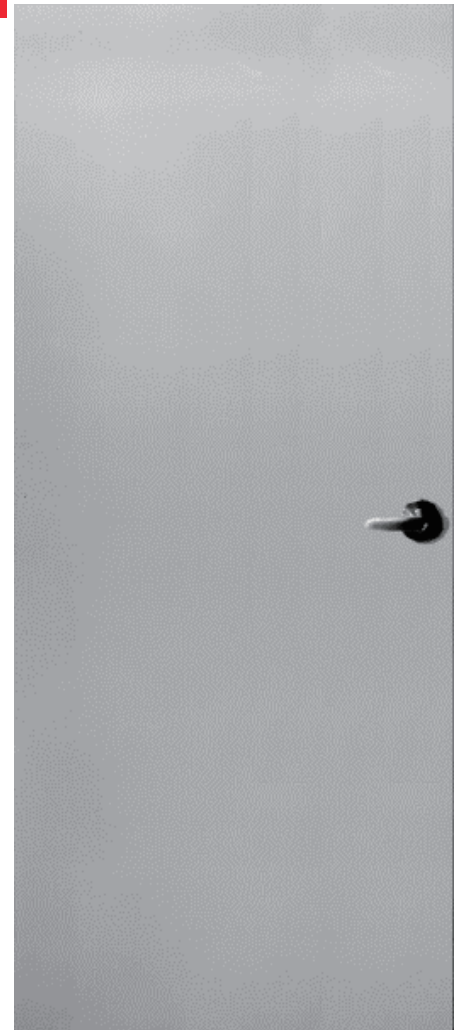
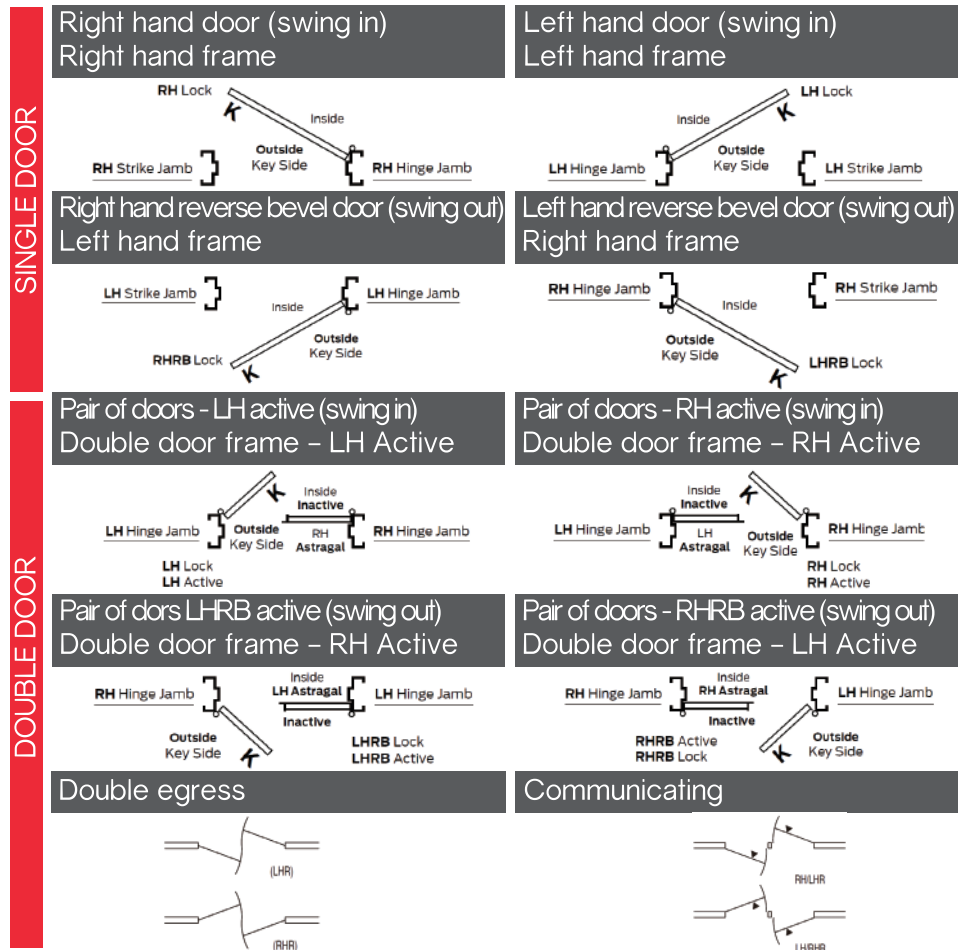


DOOR & FRAME HANDING CHART

To determine the hand of a door, view the door from the outside (the side that hinges are on is the hand of the door).

- If the door swings away from the viewer, the hand is regular hand, i.e., right or left hand.
- If the door swings to the viewer, the door is reverse swing, i.e., right hand reverse swing or left hand reverse swing.

All our Doors and Frames are handed according to the following chart:



PERFORMANCE AND FINISHES

Our hollow metal door and frames designed to meet the requirements of ANSI/SDI A250 8-2017 with standard factory applied primer finish.

Material

All our components including steel doors, frames, Perp. and reinforcement are in Zinc-Coated (Galvanized) steel conform to SD1112-08 2023

Standard: A40/ZF120 (120 g/m2), Optional: A60/ZF180 (180 g/m2).

Primer paint

Our doors are cleaned and finished standard with one coat of factory baked-on, rust-inhibited primer in accordance with ANSI A250.

10-2011 Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.

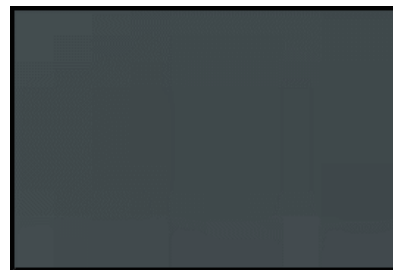
Our primer is in Oil-base or waterborne paint upon customer's choice.

Coverage is 494' square/gallon with a sprayed dry film thickness of average 40um/(3 point value)

Cure cycle is 45 min by oven at 80°.

Factory finish paint

Our factory finish paint offers a variety of popular standard color choices along with custom match options. The finish paint is applied to our quality commercial grade doors, carefully packaged and supplied to our customer, pre-finished. Our efficient method of application and pre-finished delivery saves in money and time.



RAL7016 Anthracite Grey (Standard Color)

Any RAL color chart finish available upon the request

* Full finish paint or powder coating available upon request

COLORFUL CHOICE



RAL9016 Traffic White RAL9002 Grey White



RAL3001 Signal Red RAL5001 Green Blue



RAL1019 Grey Beige RAL8016 Mahogany Brown



RAL9017 Traffic Black RAL6005 Light Moss Green

