

SDI SELECTION AND USAGE GUIDE

Steelcraft product selection and usage guides have been compiled as tools for preparing architectural specifications for Hollow Metal doors, frames and stick systems.

The charts that follow show recommended Steelcraft doors and frames for a variety of entry locations and wall construction. Locate the entry way or wall requirements on the charts, then find the doors and frames most suitable to the application. Please refer to the appropriate catalogue section for detailed information about each door and frame.

Door Style	Recommended Door Usage							
	Core/Construction							Recommended Gage of Frame
	Honeycomb Polystyrene, or Polyurethane	Honeycomb	Polystyrene	Vertical Steel Stiffeners	Mineral Board	Embossed	Tubular With Face Seams	
Level 1 - Light Commercial								
Model 1 Full Flush	L20	SL20	SL20		T20	CE20		16 Gage [0.053" (1.3mm)] or 18 Gage [0.042" (1.0mm)]
Model 2 Seamless	LF20				TF20	CF20		
Level 2 - Heavy Duty Commercial								
Model 1 Full Flush	L18	SL18	SL18	B18	T18	CE18		16 Gage [0.053" (1.3mm)]
Model 2 Seamless	LF18 or LW18			BF18 or BW18	TF18 or TW18	CF18		
Level 3 - Extra Heavy Duty Commercial								
Model 1 Full Flush	L16			B16	T16	CF16		14 Gage [0.067" (1.7mm)] or 16 Gage [0.053" (1.3mm)]
Model 2 Seamless	LF16 or LW16			BF16 or BW16	TF16 or TW16	CF16		
Model 3 Stile & Rail							A16 & AN16	
Level 4 - Maximum Duty Commercial								
Model 1 Full Flush	L14			B14	B14			14 Gage [0.067" (1.7mm)]
Model 2 Seamless	LF14 or LW14			BF14 or BW14	TF14 or TW14			

This chart is based on ANSI A250.8-2003 (SDI100)
Recommended Specification for Standard Steel Doors and Frames

SELECTION AND USAGE

The following charts show recommended Steelcraft doors for a variety of entry locations. Simply locate the entry way requirements on the charts that follow, then find the doors most suitable for the specified usage. Please refer to the codes listed at right for a description of Door Construction Level and Door Design Nomenclature.

1. Door Construction Level:

- 1 = Light Commercial
20 Gage [0.032" (0.8mm)]
- 2 = Heavy Duty
18 Gage [0.042" (1.0mm)]
- 3 = Extra Heavy Duty
16 Gage [0.053" (1.3mm)]
- 4 = Maximum Duty
14 Gage [0.067" (1.7mm)]

2. Door Design Nomenclature:

- F = Flush
- G = Half Glass
- V = Vision Light
- FG = Full Glass
- N = Narrow Lit

3. Recommended Fire Ratings are based on nationally published ratings. The local Authority Having Jurisdiction must be suited with, to insure compliance with local building codes.

4. 3 Hour Fire Door Assemblies are limited to use in locations separating two buildings. Depending on the size of any building covered in this selection guide, a 3 hour door may be required.

5. Temperature Rise Ratings may be required on stair tower doors. Consult the AHJ.

APARTMENT BUILDINGS

	¹ Door Construction Level				² Door Design Nomenclature					³ Recommended Fire Rating			
	1	2	3	4	F	G	V	FG	N	3Hr ⁴	1 1/2 Hr	3/4 Hr	20 Min
Main Entrance			•			•		•					
Unit Entrance	•	•			•					•		•	•
Stairwell ⁵		•	•				•				•		
Bathroom	•				•								
Bedroom	•				•								
Interior Rooms	•				•								
Closet	•				•								
Storage		•	•	•	•								
Laundry/Utility	•	•			•	•	•		•				
Garage/Parking			•	•	•		•		•		•	•	•

HOTELS/MOTELS

	¹ Door Construction Level				² Door Design Nomenclature					³ Recommended Fire Rating			
	1	2	3	4	F	G	V	FG	N	3Hr ⁴	1 1/2 Hr	3/4 Hr	20 Min
Main Entrance		•	•		•		•	•	•				
Unit Entrance	•	•			•		•					•	•
Secondary Entrance/Exit			•	•	•		•						
Stairwell ⁵		•	•				•				•		
Fire Exit	•	•			•		•		•	•	•	•	•
Smoke Barrier (Double Egress)		•			•		•		•	•		•	•
Bathroom	•				•		•						
Connecting Rooms	•				•		•						
Closet	•				•		•						
Kitchen		•	•		•		•		•				
Office	•				•	•	•		•				
Storage/Utility		•	•	•	•		•		•				
Laundry		•	•		•		•		•				

HEALTH CARE FACILITIES

	¹ Door Construction Level				² Door Design Nomenclature					³ Recommended Fire Rating			
	1	2	3	4	F	G	V	FG	N	3Hr ^a	1 1/2 Hr	3/4 Hr	20 Min
Main Entrance			•			•		•	•				
Service Entrance			•	•	•		•						
Stairwell ^b		•	•				•				•		
Corridor		•	•				•				•		
Bathroom	•				•	•	•		•			•	•
Patient Room		•			•								•
Operating & Exam Room		•	•		•								•
Pharmacy			•	•	•		•						•
Recreation & Lounges		•			•		•						
Closet	•				•								
Kitchen		•	•				•						

APARTMENT BUILDINGS

	¹ Door Construction Level				² Door Design Nomenclature					³ Recommended Fire Rating			
	1	2	3	4	F	G	V	FG	N	3Hr ^a	1 1/2 Hr	3/4 Hr	20 Min
Main Entrance			•	•				•	•				
Unit Entrance	•	•			•				•				
Stairwell ^b		•	•				•				•		
Bathroom	•				•								
Bedroom	•				•								
Closet	•				•								

SCHOOLS

	¹ Door Construction Level				² Door Design Nomenclature					³ Recommended Fire Rating			
	1	2	3	4	F	G	V	FG	N	3Hr ^a	1 1/2 Hr	3/4 Hr	20 Min
Main Entrance			•			•		•	•				
Secondary Entrance/Exit			•	•	•		•						
Stairwell ^b		•	•				•		•		•		
Restroom		•			•								
Classroom		•							•				•
Locker Room		•	•										
Closet	•				•								
Cafeteria/Kitchen	•	•				•			•				

INDUSTRIAL/OFFICES

	¹ Door Construction Level				² Door Design Nomenclature					³ Recommended Fire Rating			
	1	2	3	4	F	G	V	FG	N	3Hr ⁴	1 1/2 Hr	3/4 Hr	20 Min
Main Entrance			•			•		•					
Secondary Entrance			•	•	•		•						
Stairwell ⁵		•	•				•				•		
Restroom		•	•		•								
Individual Office	•				•								•
Closet	•				•								

INDUSTRIAL/MANUFACTURING

	¹ Door Construction Level				² Door Design Nomenclature					³ Recommended Fire Rating			
	1	2	3	4	F	G	V	FG	N	3Hr ⁴	1 1/2 Hr	3/4 Hr	20 Min
Main Entrance			•					•	•				
Secondary Entrance			•	•	•		•						
Restroom			•		•								
Cafeteria			•			•							
Equipment Room	•	•			•								
Boiler Room			•		•						•		
Parts Crib		•			•								
Tool Room			•		•	•							

OFFICE BUILDINGS

	¹ Door Construction Level				² Door Design Nomenclature					³ Recommended Fire Rating			
	1	2	3	4	F	G	V	FG	N	3Hr ⁴	1 1/2 Hr	3/4 Hr	20 Min
Main Entrance			•			•		•	•				
Secondary Entrance			•	•	•								
Stairwell ⁵		•	•				•				•		
Restroom		•	•		•								
Individual Office	•				•								•
Closet	•				•								
Equipment Room		•	•			•							
Boiler Room		•	•		•						•		

SELECTION AND USAGE

CORES:

1. **Honeycomb:** 1" (25.4mm) Kraft honeycomb core is laminated to both face sheets with contact adhesive. The honeycomb is phenolic resin impregnated with edges sanded to insure ultimate lamination and performance. To further enhance the structural ability of the door, the honeycomb core material is subjected to several unique operations prior to assembly. If any of these operations are eliminated, the strength and durability of the door is compromised.
2. **Polystyrene:** for exterior applications in extreme weather conditions.
3. **Polyurethane:** for exterior applications in arctic weather conditions. This core is not available Fire Rated.
4. **Steel Stiffened:** 20 gage [0.032" (0.8mm)] hat shaped steel stiffeners are welded to the inside face sheets as internal reinforcement. The stiffeners are located a maximum of 6" (152.4mm) on center and are welded to the face sheet on 4" (101.6mm) centers. The areas between the stiffeners are filled with fiberglass insulation.
5. **Mineral Fiber:** The mineral fiber core material is laminated to both face sheets with contact adhesive. This core provides a 250°F (121°C) Temperature Rise rating or 450°F (232°C) depending on hardware application. See Fire Rated Products Section for additional information.
6. **Tubular (Visible Seams):**
 - A Series**
 - **Stiles:** 5-1/4" (133.3mm) face dimension + 5/8" (15.8mm) for glazing bead = 5-7/8" (149.2mm) total (including bead);

- **Top Rails:** 5" (127mm) face dimension + 5/8" (15.8mm) for glazing bead = 5-5/8" (142.8mm) total (including bead); bottom bead = 6-1/4" (158.7mm) total (including bead both sides);
- **Bottom Rail:** 10" (254mm) face dimension + 5/8" (15.8mm) for glazing bead = 10-5/8" (269.8mm) total (including bead).

AN Series

- **Stiles:** 3" (76.2mm) face dimension + 5/8" (15.8mm) for glazing bead = 3-5/8" (92mm) total (including bead);
- **Top Rails:** 3" (76.2mm) face dimension + 5/8" (15.8mm) for glazing bead = 3-5/8" (92mm) total (including bead);
- **Intermediate Rails (FG2 & FG3):** 3" (76.2mm) mid rail face dimension + 5/8" (15.8mm) for top glazing bead + 5/8" (15.8mm) for bottom bead = 4-1/4" (107.9mm) total (including bead both sides);
- **Bottom Rail:** 10" (254mm) face dimension + 5/8" (15.8mm) for glazing bead = 10-5/8" (269.8mm) total (including bead).

APARTMENT BUILDINGS

Series	STANDARD/OPTIONAL CORE							EDGE CONSTRUCTION			EDGE FEATURE			
	Honeycomb	Polystyrene	Polyurethane	Steel Stiffened	Mineral Fiber	Tubular Visible Seams	Tubular Welded Corners	Visible Seam	Epoxy Filled	Welded	LOCK		HINGE	
											1/8" in 2" Bevel	Square	1/8" in 2" Bevel	Square
A						●					●		●	
AN						●					●		●	
B				●				●	■	■	●		●	
CE		●						●	■		●		●	
H	●	■	■	■	■			●	■	■	●		●	
L	●	■	■					●	■	■	●		●	
PW				●				●		●	●		●	
SL	●	■						●				●		●
T					●			●	■	■	●		●	

- Standard
- Optional

SELECTION AND USAGE

The following chart shows recommended Steelcraft frames for a variety of wall constructions. Locate the wall requirements on the chart that follows, then find the frame most suitable for the specified usage.

FLUSH (F, FN, MU, FE AND DE SERIES) FRAMES

WALL DETAIL AND TYPE	FRAME DEPTH (Size of frame to Specify)				
	4-3/4" 121mm	5-3/4" 146mm	6-3/4" 171mm	7-3/4" 197mm	8-3/4" 222mm
Wrap Around Concrete Block					
4" (101.6mm) Masonry Unit	•				
6" (152.4mm) Masonry Unit			•		
8" (203.2mm) Masonry Unit					•
Butted Masonry					
6" (152.4mm) Masonry Unit	•	•			
8" (203.2mm) Masonry Unit	•	•	•	•	
Cavity Wall, 4" (101.6mm) Masonry Units			•	•	•
Cavity Wall, 6" (152.4mm) Masonry Units					•
Concrete Block and Tile					
Cavity Wall, 4" (101.6mm) Masonry Units	•				•
4" (101.6mm) Masonry Unit, Brick Veneer Plater Inside		•			
4" (101.6mm) Masonry Unit, Brick Veneer			•		
Cavity Wall, 4" (101.6mm) Masonry Unit, Brick Veneer				•	
Existing Wall					
Poured Concrete or Concrete Block	•	•	•	•	•
Wood/Steel Stud Walls					
2" X 3" (50.8mm X 76.2mm) Wood Stud, 1/2" (12.7mm) Wallboard Ea	•				
Closed Steel Stud, Gypsum	•	•	•	•	
2" X 4" (50.8mm X 76.2mm) Wood Stud Gypsum		•			
2" X 4" (50.8mm X 76.2mm) Wood Stud, Brick Veneer			•	•	
2" X 4" (50.8mm X 76.2mm) Wood Stud, 5/8" (15.8mm) Gypsum				•	
2" X 4" (50.8mm X 76.2mm) Wood Stud, 1/2" (12.7mm) & 5/8" (15.8mm) Gypsum Both Sides				•	

Notes:

1. Size of frame to specify will vary with stud size.
2. Frames can also be used in wall conditions other than those shown below.
3. Frames for these walls can be KD (knock-down) or SUA (set-up and welded).

The following chart shows recommended Steelcraft frames for a variety of steel and wood stud drywall wall constructions. Locate the wall requirements on the chart that follows, then find the frame most suitable for the specified usage.

DRYWALL (DW AND K SERIES) FRAMES

STUD		THICKNESS		FRAME DEPTH
Size	Type	Drywall	Wall	Size of Frame to Specify
1 Layer of Gypsum Board Each Side of the Wall				
1-5/8" (41.2mm)	STEEL	1/2" (12.7mm)	2-5/8" (66.6mm)	3-5/8" (92.0mm)
1-5/8" (41.2mm)	STEEL	5/8" (15.8mm)	2-7/8" (73.0mm)	3-7/8" (98.4mm)
2-1/2" (63.5mm)	WOOD OR STEEL	1/2" (12.7mm)	3-1/2" (88.9mm)	4-1/2" (114.3mm)
2-1/2" (63.5mm)	WOOD OR STEEL	5/8" (15.8mm)	3-3/4" (95.2mm)	4-3/4" (120.6mm)
2-1/2" (63.5mm)	WOOD OR STEEL	3/4" (19.0mm)	4" (101.6mm)	5" (127.0mm)
3-1/2" (88.9mm)	WOOD	1/2" (12.7mm)	4-1/2" (114.3mm)	5-1/2" (139.7mm)
3-1/2" (88.9mm)	WOOD	5/8" (15.8mm)	4-3/4" (120.6mm)	5-3/4" (146.0mm)
3-5/8" (92.0mm)	STEEL	5/8" (15.8mm)	4-7/8" (123.8mm)	5-7/8" (149.2mm)
1 Layer of Gypsum Board One Side of the Wall				
2-1/2" (63.5mm)	WOOD OR STEEL	1/2" (12.7mm)	4" (101.6mm)	5" (127.0mm)
3-1/2" (88.9mm)	WOOD	1/2" (12.7mm)	5" (127.0mm)	6" (152.4mm)
2 Layer of Gypsum Board Each Side of the Wall				
2-1/2" (63.5mm)	WOOD OR STEEL	5/8" (15.8mm)	5" (127.0mm)	6" (152.4mm)
3 Layer of Gypsum Board Each Side of the Wall				
3-5/8" (92mm)	STEEL	5/8" (15.8mm)	6-1/8" (155.5mm)	7-1/8" (180.9mm)
1-5/8" (41.2mm)	STEEL	1/2" (12.7mm)	4-5/8" (117.4mm)	5/8" (142.8mm)

Notes:

1. Size of frame to specify will vary with stud size.
2. Frames can also be used in wall conditions other than those shown below.
3. Frames for these walls can be KD (knock-down) or SUA (set-up and welded).