

Recommended
Selection and Usage Guide
for
Standard Steel Doors



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STEEL DOOR INSTITUTE

30200 DETROIT ROAD • CLEVELAND, OHIO 44145

Recommended Selection and Usage Guide for Standard Steel Doors

Purpose

To establish guide criteria for the selection and usage of 1- $\frac{3}{4}$ " and 1- $\frac{3}{8}$ " standard steel doors.

Selection

Standard steel doors are classified in four levels: Level 1 – 1- $\frac{3}{4}$ " and 1- $\frac{3}{8}$ " standard duty, Level 2 – 1- $\frac{3}{4}$ " heavy duty, Level 3 – 1- $\frac{3}{4}$ " extra heavy duty and Level 4 – 1- $\frac{3}{4}$ " maximum duty.

Each of the four levels noted above offer a range of construction models and designs to meet architectural requirements for preference and appearance. The standard steel door construction models are full flush, seamless and, stile and rail.

Recommended minimum gauge requirements for the various levels and models of standard steel doors are indicated in table 1.

Usage

Selection of standard steel doors for general usage is made by analyzing criteria such as frequency of use, including subsection to and degree of possible abuse. Other criteria to be considered in door selection are: conformance to local building codes and fire code regulations; sound attenuation and/or insulation requirements; and architectural design and appearance.

Table 2 is a reference aid matching standard duty, heavy duty, extra heavy duty and maximum duty doors with general usage requirements within the classification of buildings. Where optional door levels and models are indicated, further analysis on an individual job basis is recommended.

When unusual or special door usage conditions are encountered, contact a representative member of the Steel Door Institute for consultation and guidance.

Notes

Tolerances – All values which do not carry specific tolerances or are not marked maximum or minimum shall have the following tolerances: Linear dimensions shall be $\pm 1/16$ in. (1.6 mm). Weight or force shall be $\pm 2\%$. Angles shall be ± 2 degrees. Where only minus tolerances are given, the dimensions are permitted to be exceeded at the option of the manufacturers.

Gauge vs. Thickness – While the term 'gauge' is no longer common for defining material thickness it is still used to specify doors and frames for ordering purposes. The term 'thickness' is used when defining the actual dimension of an item, and the term 'gauge' is used in the context of specifying a particular door or frame.







Table 1 – Standard steel door grades and models

Level		Model	Full Flush or Seamless			Construction
			MSG No.	IP in	SI mm	
1	Standard Duty	1	20	0.032	0.8	Full Flush
		2				Seamless
2	Heavy Duty	1	18	0.042	1	Full Flush
		2				Seamless
3	Extra Heavy Duty	1	16	0.053	1.3	Full Flush
		2				Seamless
		3				*Stile & Rail
4	Maximum Duty	1	14	0.067	1.6	Full Flush
		2				Seamless

*Stiles and rails are 16 gauge; flush panels, when specified, are 18 gauge.

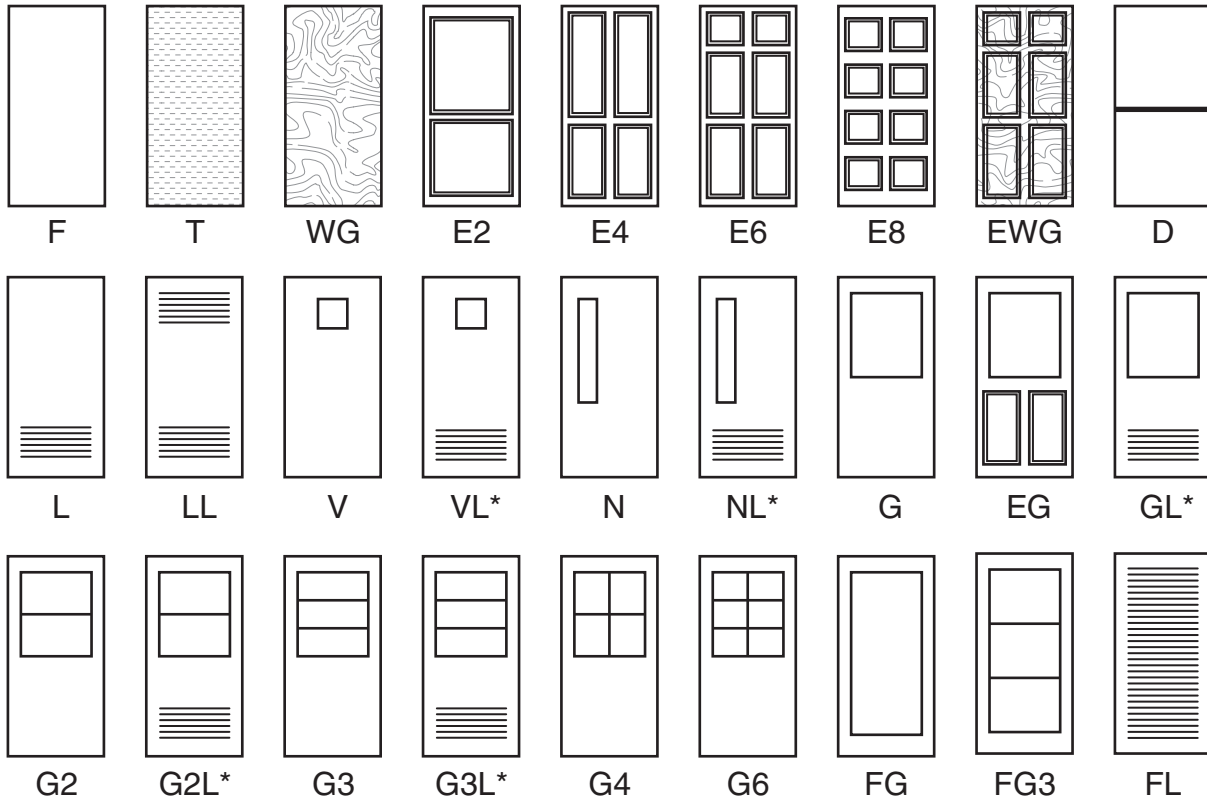
For complete standard steel door construction specifications and available sizes, refer to ANSI/SDI A250.8-2017, *Specifications for Standard Steel Doors and Frames (SDI-100)* and ANSI/SDI A250.4-2018 *Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors*.

Table 2 – Suggested door levels and applications

Building Types	Standard Steel Door Levels				Door Design Nomenclature					
	Level 1 Standard Duty 1-3/8" 1-3/4"	Level 2 Heavy Duty 1-3/4" only	Level 3 Extra Heavy Duty 1-3/4" only	Level 4 Maximum Duty 1-3/4" only	 F	 G	 V	 FG	 N	 L
Apartment										
Main Entrance		•	•		•	•		•	•	
Unit Entrance	•	•	•		•					
Bedroom	•				•					
Bathroom	•				•					•
Closet	•				•					•
Stairwell		•	•				•		•	
Mechanical		•	•		•					•
Dormitory										
Main Entrance		•	•	•		•		•	•	
Unit Entrance	•	•			•					
Bedroom	•	•			•					
Bathroom	•	•			•					•
Closet	•	•			•					•
Stairwell		•	•				•		•	
Hotel – Motel										
Unit Entrance	•	•			•					
Bathroom	•				•					
Closet	•				•					•
Stairwell		•	•				•		•	
Storage & Utility		•	•		•					•
Medical										
Main Entrance			•			•		•	•	
Patient Room		•			•					
Stairwell		•	•				•		•	
Operating & Exam.		•	•		•		•		•	
Bathroom		•	•		•					•
Closet	•	•			•					•
Recreation		•			•		•			
Kitchen		•	•				•			
Mechanical/Storage/ Utility		•	•		•					•
Industrial										
Entrance & Exit			•	•		•		•	•	
Office	•	•			•	•				
Production			•			•			•	•
Toilet		•	•		•					•
Tool			•	•	•					
Trucking			•	•		•				
Monorail			•	•	•					
Office										
Entrance			•			•		•	•	
Individual Office	•				•	•				
Closet	•				•					•
Toilet		•	•		•					
Stairwell		•	•				•		•	
Equipment		•	•		•					
Boiler		•	•		•					•
School										
Entrance & Exit			•	•		•		•	•	
Classroom		•				•			•	
Toilet		•	•		•					•
Gymnasium			•	•	•	•	•		•	
Cafeteria		•	•			•				
Stairwell		•	•				•		•	
Closet	•	•	•	•	•					•

Note: Table 2 is only a guide. Please consult ANSI/SDI A250.8 and applicable building codes for additional requirements. For additional designs refer to SDI-134, *Nomenclature for Standard Steel Doors and Steel Frames*.

Steel Door Institute Standard Steel Door Design Nomenclature



* Note: Design combination is indicated by light followed by louver.

Consult SDI-134 for further information on standard design nomenclature for Standard Steel Doors.

Nomenclature Letter Symbols

- | | | |
|-----------------------|---------------------------------------|--|
| F – Flush | EWG – 6 Panel Embossed and Wood Grain | NL – Narrow Light and Louvered |
| T – Textured | D – Dutch Door | G – Half Glass (options G2, G3, G4 and G6) |
| WG – Wood Grain | L – Louvered (top or bottom) | EG – Embossed and Half Glass |
| E2 – 2 Panel Embossed | LL – Louvered (top and bottom) | GL – Half Glass and Louvered |
| E4 – 4 Panel Embossed | V – Vision Light | FG – Full Glass (option FG3) |
| E6 – 6 Panel Embossed | VL – Vision Light and Louvered | FL – Full Louver |
| E8 – 8 Panel Embossed | N – Narrow Light | |

Louvered door designs are further specified as inserted louver (I), pierced (P), or air condition grille (A).
When ordering, specify design, louver size and/or free area requirements.



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AVAILABLE PUBLICATIONS

Specifications

- ANSI/SDI A250.6** Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames
- ANSI/SDI A250.8** Specifications for Standard Steel Doors and Frames (SDI-100)
- SDI-108** Recommended Selection & Usage Guide for Standard Steel Doors
- SDI-118** Basic Fire Door, Fire Door Frame, Transom/Sidelight Frame, and Window Frame Requirements
- SDI-128** Guidelines for Acoustical Performance of Standard Steel Doors and Frames
- SDI-129** Hinge and Strike Spacing
- SDI-133** Guideline for Specifying Steel Doors & Frames for Blast Resistance
- SDI-136** Guideline for Specifying Windstorm Products

Test Procedures

- ANSI/SDI A250.3** Test Procedure & Acceptance Criteria for Factory Applied Finish Coatings for Steel Doors and Frames
- ANSI/SDI A250.4** Test Procedure & Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors
- ANSI/SDI A250.10** Test Procedure & Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames
- ANSI/SDI A250.13** Testing and Rating of Severe Windstorm Resistant Components for Swinging Door Assemblies for Protection of Building Envelopes (Not applicable for FEMA 320/361 or ICC-500 Shelters)
- SDI-113** Standard Practice for Determining the Steady-State Thermal Transmittance of Steel Door and Frame Assemblies
- SDI-131** Accelerated Physical Endurance Test Procedure for Steel Doors

Construction Details

- ANSI/SDI A250.11** Recommended Erection Instructions for Steel Frames
- SDI-110** Standard Steel Doors & Frames for Modular Masonry Construction
- SDI-111** Recommended Details for Standard Steel Doors, Frames, Accessories and Related Components
- SDI-122** Installation Troubleshooting Guide for Standard Steel Doors & Frames

Miscellaneous Documents

- SDI-112** Zinc-Coated (Galvanized/Galvannealed) Standard Steel Doors and Frames
- SDI-117** Manufacturing Tolerances for Standard Steel Doors and Frames
- SDI-124** Maintenance of Standard Steel Doors & Frames
- SDI-127** Industry Alert Series (A-L)
- SDI-130** Electronic Hinge Preparations
- SDI-134** Glossary of Terms for Hollow Metal Doors and Frames
- SDI-135** Guidelines to Measure for Replacement Doors in Existing Frame Openings

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