

Earn AIA Sustainable Design Hours Online

Architects can now earn one AIA/CES Health, Safety and Welfare/Sustainable Design (HSW/SD) hour without leaving their desks. The Steel Door Institute's online course *Steel: Green Now, Green Forever* is available 24 hours a day, seven days a week. Participants will learn about the recyclability of steel, the advantages of steel doors and frames, LEED credits available when building with steel, and more.

Go to SDI's [Professional Education](#) page to sign up or for more information.

Why Do Standards Change?

Just as technology and terminology in the steel door and frame industry evolve, so do the standards. In fact, American National Standards Institute (ANSI) requires that standards undergo an audit every five years to ensure they are still accurate and relevant.

Standard revisions range from altering test procedures to minor word changes that ensure the terminology is current. SDI's naming conventions for standards are either "SDI-108-09" or "ANSI/SDI A250.4-2011". The "-09" and "-2011" reference the year the standard was revised. Historical standards are available upon request by [contacting SDI](#).

Whatever the scope of the changes, specifiers or purchasers of steel doors and frames from an SDI member company can be confident that these products adhere to the toughest performance standards in the industry and have been tested by the top labs in the country.

Performance Study of Steel Doors and Frames Versus Other Materials

For six months SDI gathered information from industry professionals in the United States and Canada to get their answers to the question: Why steel? The result is a performance study with straight-forward data comparing hollow metal to wood, aluminum, and fiberglass. This information can be used to help determine the best material for a project. A few of the areas analyzed are fire ratings, swing tests, acoustical performance, and longevity.

Steel doors and frames are shown to have superior strength and durability compared with alternate materials. Steel can withstand more natural and man-made abuse, is more sanitary, and is easier to maintain. A result of the strength and durability of hollow metal is the low total cost of ownership. If properly installed and maintained, hollow metal doors often last 30 years or longer.

View the PDF on our website!



Update to Standard

Why is ANSI/SDI A250.4 Important?



More than 30 years ago, the Steel Door Institute created a standard to set uniform testing procedures for door, frame, and hardware durability. The standard also provided manufacturers with a consistent method for evaluating life-cycle testing of hollow metal components and assembly. It was adopted by ANSI in 1994, and has undergone multiple revisions since. Today it is called [ANSI/SDI A250.4](#) (Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames and Frame Anchors).

The emphasis of the standard is on the cycle test and twist test, which replicate onsite use and abuse. ANSI/SDI A250.4 specifies three levels of opening performance. At the completion of the tests, the doors and frames undergo a 17-point inspection to determine if they have passed.

ANSI/SDI A250.4 is not specified directly, but rather provides the underlying data for other standards. For example, [ANSI/SDI A250.8](#) (Recommended Specifications for Standard Doors and Frames) includes and requires "The physical performance levels [to be] determined by testing assemblies in accordance with ANSI/SDI A250.4."

The most recent revision was in 2011. ANSI standards must be reviewed every five years, so even if the changes are minimal, design professionals can be assured the information is up-to-date.

Fire Rating				
Material	Maximum (Best Case) Metrics	Performance Best • Medium Θ Worst o	Comparative Cost (\$, \$\$, or \$\$\$)	Comments
Hollow metal	3 hours	•	\$	Only door material that offers a three hour fire rating. Twenty minute hollow metal doors generally perform to a three hour standard.
Wood	90 minutes	Θ	\$\$\$	Wood must use an intumescent seal, which expands when hot. Wood doors are not approved for all hardware, therefore there are fewer options. A pair of fire-rated wood doors requires a 5 inch metal cap, which diminishes the aesthetic appeal of the door. Additionally, as the fire rating increases, so does the cost.

Portion of the Fire Rating performance table