

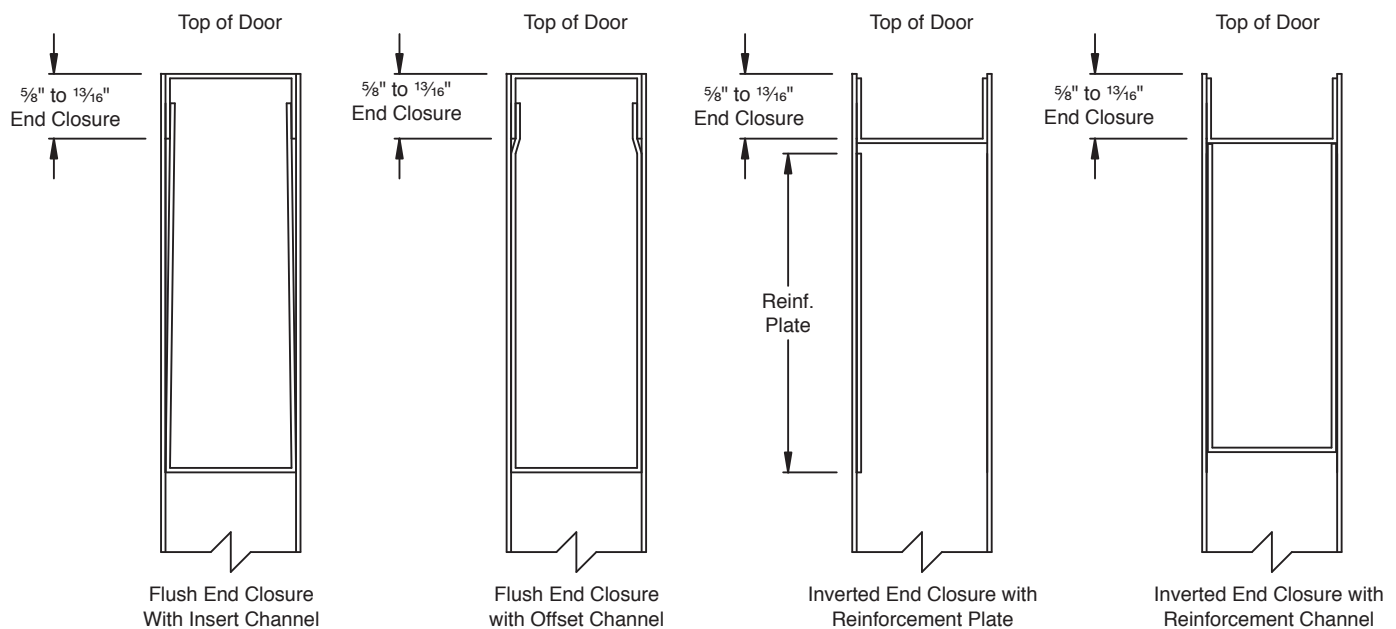
End Closure Location

The steel door industry utilizes a variety of end closure designs in standard doors. The most common are flush type end closures or inverted end closures. The inverted (legs upward) end closures in many cases may create a necessity to reposition the mounting holes for regular arm closures or surface overhead stops/holders. To avoid interference with the "web" of the top end closure channel, mounting screws must be slightly repositioned.

A similar (but less serious) situation could occur when channel-shaped closer reinforcements are inserted into flush type end closures. The additional layers of material or the joint itself could cause "creeping" of the drill bit or tap.

Illustrated below is the consensus of the Steel Door Institute members showing the location of these channel conditions on standard steel doors.

It is suggested that the hardware manufacturer and/or hardware consultant be contacted for resolution of such a conflict.



Refer to ANSI A250.8 for Material Thickness

Door Edge Cutouts

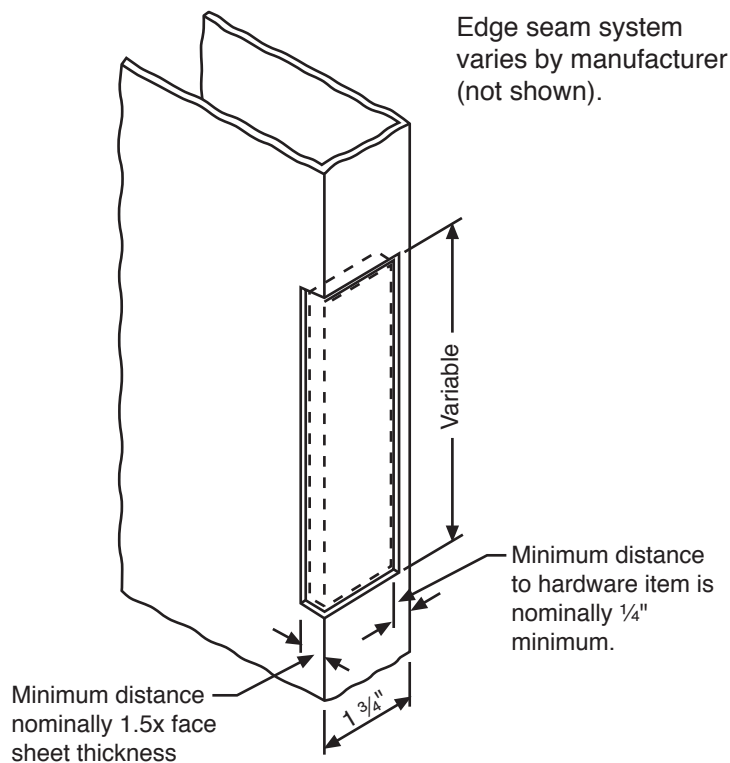
The ability to form a crisp aesthetic cutout in the edge of a steel door, especially in the vicinity of a bend line is directly influenced by the steel thickness and the proximity of the cutout to the bend line. A cutout too close to the bend line will result in a flare-out of the cutout area due to unevenly distributed stress along the brake die or rollform rollers.

The following illustrations are intended to convey dimensional limitations of the hardware items to be mortised into the edge of 1 3/4" thick standard steel doors.

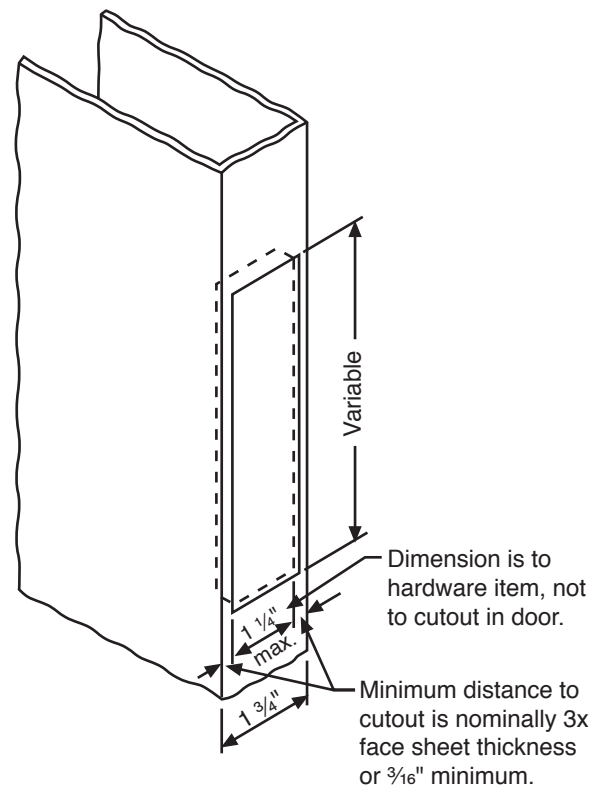
Certain lock fronts, concealed hinges, strikes, or electrical devices do not comply with these limitations. The resulting potential for inaccuracy or lack of aesthetics is inherent in the manufacturing processes and is not to be considered a defect.

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.



Cutout Limits
Cutout Around Corner



Cutout Limits
Cutout On Edge



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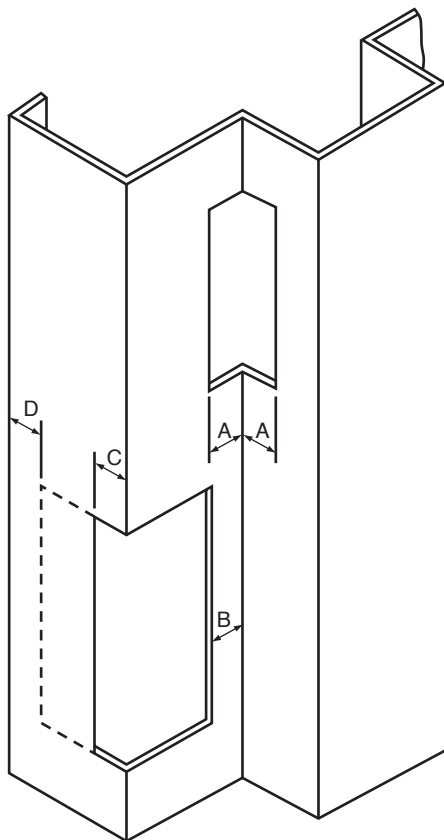
Documents

Document Sharing Hub

Frame Cutout Limits

The ability to form a crisp aesthetic cutout in steel frames, especially in the vicinity of a bend line is directly influenced by the steel thickness and the proximity of the cutout to the bend line. A cutout too close to the bend line will result in a flare-out of the cutout area due to unevenly distributed stress along the brake die or rollform rollers.

The following illustration is intended to convey dimensional limitations of the hardware items to be mortised into the face, rabbet or stop of steel frames. Certain concealed hinges, strikes, or electrical devices do not comply with these limitations. The resulting potential for inaccuracy or lack of aesthetics is inherent in the manufacturing processes and is not to be considered a defect.



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.

Gage	Min. Thickness	Inside Bends	Backset	Outside Bends	
		A Min.	B Min.	C Min.	D Min.
18	0.042"	$5/64$ "	$7/32$ "	$5/64$ "	$7/32$ "
16	0.053"	$3/32$ "	$7/32$ "	$3/32$ "	$7/32$ "
14	0.067"	$7/64$ "	$7/32$ "	$7/64$ "	$7/32$ "

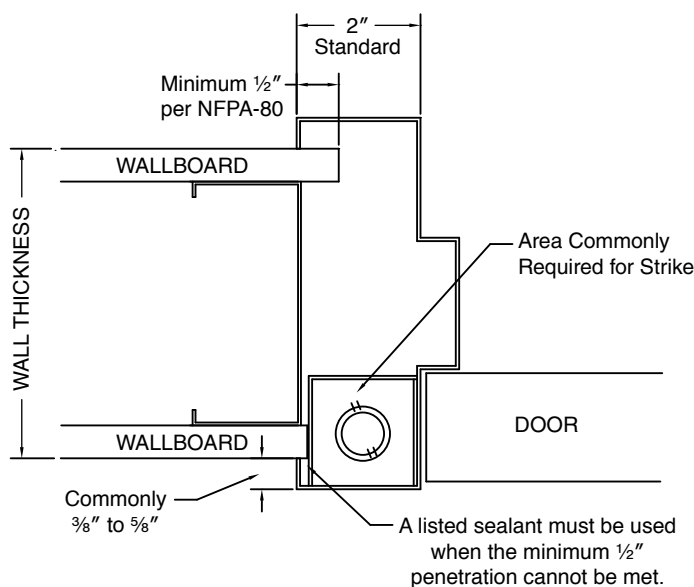
Electric Strikes & Electric Hinges in Stud Walls

Steel or wood stud drywall constructions methods and frame anchorage could result in interference between the stud and the electric strike or hinge. Notching the stud could result in compromising the stability of the frame and invalidating the fire rating of the opening.

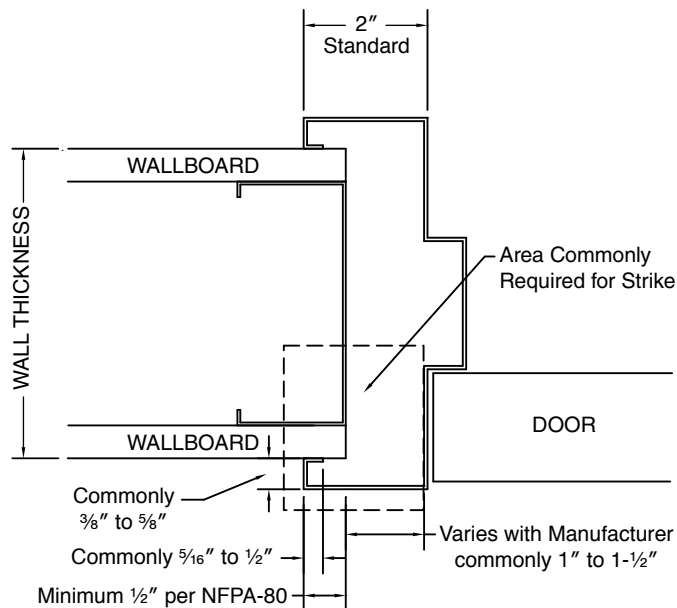
Dependent on the dimensions of the strike, the cutouts may extend beyond the frame face or the returns, thus leaving critical strike parts or wiring exposed.

Consideration should be given to specifying a strike suitably sized to fit the confines of a standard 2" face frame or specify an alternate frame profile with larger frame faces that will accommodate it.

Situations exist where the preparation for an electric strike or hinge does not allow the drywall to penetrate the throat of a fire rated frame the required 1/2-inch in the immediate area of the hardware. When this occurs, a penetration or joint seal (e.g. intumescent caulk) listed for gypsum wall assemblies must be applied to the affected area; thereby, sealing any potential gap and ensuring the continuity of the fire barrier.



Typical Frame Profile



Slip-on Drywall Frame

Prime Painted Materials Alert

Prime Painted Doors, Frames, and Accessories (where applicable) shall comply with the acceptance criteria specified in ANSI A250.10-2011. Doors and frames are cleaned and treated prior to painting to ensure maximum paint adhesion. All exposed surfaces are then given a factory-applied coat of rust inhibiting “direct to metal” type primer. The primer is then baked, air dried, or otherwise cured as appropriate for the primer.

This process is intended to protect the steel surfaces for a period of time under reasonable weather exposure conditions. Factory applied primer coatings may be somewhat porous in order to accept finish coatings. The primer coating may therefore be susceptible to the action of moisture or ambient moisture condensation during shipping or storage. For example, transportation of materials in unprotected “open” trucks during inclement weather (rain or snow) or on roadways where salt or other snow melting agents are used will deteriorate the primer. Extended exposure to such conditions may result in rusted or water stained areas. ANSI A250.8-2017 (SDI-100) paragraph 4.1 presents Industry recommended jobsite storage requirements.

Should the primer become scratched, abraded, rusted or stained, the affected areas may rust unless sanded and reprimed with a suitable “direct to metal” primer containing rust inhibitors.

Prior to application of finish coats, the substrate shall be inspected by the Painting Contractor. All Architectural Specification requirements along with all requirements of the paint manufacturer shall be followed. These will generally include scuff sanding of the substrate to remove foreign materials, scratches or abrasions from construction processes, along with any special or mandatory requirements for primer touch-up or additional primers required by the paint system.

MOST IMPORTANTLY, the field applied primer and finish paint “systems” must be designed for direct to metal applications and contain rust inhibiting properties.

IF COATING COMPATIBILITY IS AN ISSUE, contact the SDI Manufacturers or their local distributors who can provide information or “sample” materials for the painting contractor’s use.