

Steel Door Frame Installation in Steel Stud Construction



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This manual provides step-by-step instructions for the installation of a steel door frame in steel stud construction. It is a companion piece to the SDI video *How to Install Steel Door Frames in Steel Stud Construction*. Please watch the video for a demonstration of all steps in this process. To view the video, scan the QR code below or visit the SDI website at www.steeldoor.org.

Link to video.



Frame Installation: Steel Stud Construction

In any building project, secure openings require proper frame installation. This manual will guide you through the key steps for the proper installation of a steel door frame in steel stud construction.

- Prepare:** Select the right materials and tools for this project.
Install: Set the frame plumb, level & square; complete frame installation.
Verify: Test the door to ensure that it is functioning properly.

Step 1: Preparation



Match frame opening number

1. Locate the frame at the door opening location. Verify that the frame opening number matches the actual opening location number.
2. Compare the handing and size of the frame to the drawing.
3. Check the hardware schedule. Contact your distributor if information does not match.
4. Verify that the proper hardware reinforcements are installed on the frame. Also verify the hinge size, strike type and closer mounting.
5. The floor finish will affect the way the door should be installed. Determine if the floor finish will be:
 - Concrete
 - Carpet
 - Wood
 - Tile



Hinge/strike/closer

We are using a 4-1/2" hinge, an ASA strike, and both regular arm and parallel arm closer reinforcements. A standard 5-3/4" steel stud anchor will be used when your wall system consists of a 3-5/8" steel stud using 5/8" drywall on each side. Some frame installations may require nonstandard or custom anchors. For this installation, we're using both standard steel stud and wood stud anchors.



Steel stud anchor

6. Next determine if the floor finish will be concrete, carpet, wood or tile.

EXPERT INSIGHTS:

- √ Always verify floor conditions to the drawing before setting the frame.
- √ Circumstances may call for mounting the frame directly to the concrete or there may be carpet, tile, ceramic tile or wood flooring that is yet to be installed.
- √ If you are installing the door frame before the floor is installed, it is critical to know the specifications of the floor that will be laid. This will allow you to adjust the frame properly so that the doors will not drag or create too large a gap when the installation is complete.

NOTE: Some wood and tile finishes, such as quarry, are up to 3/4" thick.

7. Adjust the frames to match the floor finish thickness. Most frames are provided with adjustable base anchors that allow you to adapt for floor surfaces up to 1-3/8".
8. CAUTION: Not all floor anchors are adjustable. SDI manufacturers may provide adjustable or fixed anchors. We recommend that you contact your job supervisor in advance to verify the floor anchor requirements of the finish flooring.
9. The frame may be shipped welded or knock down (KD).



Pre-welded frame



Base anchors



Shipping bar

EXPERT INSIGHTS:

- √ KD frames require minimal assembly.
- √ Each slot on the KD frame has an associated tab.
- √ The most important tab connection is at the rabbeted part of the frame. Those tabs should be bent in an outward position.

10. Install base anchors to the frame using the screws provided. Pre-welded frames are transported to the job site using a temporary shipping bar to prevent the frame from twisting in transit. ***This temporary bar should not be used as a spreader bar to set the frame.***

EXPERT INSIGHTS:

- √ The temporary shipping bar comes welded from the factory. It is important that the temporary shipping bar be properly removed by grinding it off. Do not bend or twist it off.

11. At this point, the steel studs should be in place, leaving out the studs around the rough opening. Stand the frame up in the wall line at the proposed location.
12. Place the properly sized spreader between the hinge and strike jambs at the floor.



Spreader

CAUTION: Check the spreader to ensure that it has been cut squarely and accurately. This will help align the jambs as they are anchored to the floor and is critical to ensure proper installation. Also make sure that the frame is positioned to allow for the thickness of the drywall.

Step 2: Setting the Frame Plumb, Level & Square

13. Anchor the base anchors to the floor on each jamb using a concrete screw or drive pin anchor. Install a minimum of six anchors. Place three on the hinge jamb and three on the strike jamb.
14. Proper anchor spacing is important. An anchor must be above each hinge and directly across at the same height on the strike jamb.



Drive pin anchor

NOTE: For additional guidance on anchor placement, consult the industry standards published by SDI.

15. If your installation requires electrical components, install conduits or flex cable for low voltage wiring now.

16. Place another mid-frame spreader in between the hinge and strike jambs to keep the frame straight and aligned.
17. Check the head of the frame for level accuracy. If necessary, adjust the base anchors to achieve a level head and proper floor clearance.
18. Move the studding in place and begin screwing the studs to the track at the bottom. Install screws on each side of the stud.



Proper anchor spacing

19. Once the base of the stud is anchored, proceed with securing the studs against each jamb to the top steel stud plate. Then install screws on both sides of the stud.
20. Install the header above the frame. The studs should be perpendicular to the steel stud track. The dimension between the jambs should be the same at the top and bottom of the frame.
21. Check the frame again for plumb, level and square accuracy.
22. Secure the top steel stud anchor on the strike jamb with screws. Check the hinge and strike jambs for plumb accuracy in all directions.

23. Position the top of the hinge jamb to the stud so that it will accept the proper thickness drywall on each side.
24. Bend the anchor ear around the stud to hold the anchor in place.



Attach to stud allowing for drywall thickness

EXPERT INSIGHTS:

- ✓ Framing conditions at the opening affect the type of anchor used, such as wood stud anchors.
- ✓ Wood stud anchors have ears that allows us to bend them, wrap it around the stud, and then face-screw it to the stud for an easier application.

25. Attach the anchor to the stud with the screws provided. Check the frame for plumb. Making sure the frame is plumb, level and square ensures that the door will operate properly when installed.

Step 3: Completing the Installation

26. Verify the dimension and trueness of the frame, then screw the remainder of the frame anchors into the studs. Secure each anchor with a minimum of two screws.
27. When using wood stud anchors, bend the ears tightly against the stud.
28. After the frame is secured to the studs and tightly anchored, check it again for trueness and accuracy in all directions.
29. If the opening requires it, verify electrical wiring needs.
30. The drywall installer should check that the frame is plumb, level and square before hanging the drywall. The installer should avoid excessive shoving of the drywall into the hinge, strike or head jambs because this may throw the frame out of alignment.



Ear of wood stud anchor



Chamfer back the edge of the drywall

EXPERT INSIGHTS:

- ✓ During the drywall installation, chamfer back the edge of the drywall so that it will slip over studding screw heads that may be present around the frame.
- ✓ As you install the drywall, gently work it in and around the frame, trying to avoid knocking the frame out of alignment.
- ✓ Once the drywall is in place, re-plumb the frame and then anchor off the drywall.

31. Spreaders should be left in place during hanging of drywall to help prevent the frame from being knocked out of plumb.

Step 4: Verification



*Final check for
trueness*

32. Check the frame again for trueness before screwing the drywall off to the perimeter studs around the frame.
33. The frame installation is now complete and ready for the next stage of construction.

The procedures described in this document are only guidelines. Please follow all applicable building codes, standards and accepted practices specific to your geographic location.

For more information, visit www.steeldoor.org.



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