DKS Hollow Metal Frame Installation Instructions

SDI-Compliant Manufacturer-Style Field Manual

KD Drywall Frames and Welded Frames for Steel or Wood Stud Construction

Document	DKS-HMFI-001
Revision	Rev. 1 - Expanded SDI Installation Manual
Use	Rep, distributor, installer and submittal support
Important	Installation must conform to approved project documents, applicable codes and the authority having jurisdiction.

Purpose: This document provides general installation guidance for DKS hollow metal frames. It is intended to support proper field installation and does not replace project specifications, approved shop drawings, fire door listing requirements, local code requirements or direction from the authority having jurisdiction.

1. Standards, Scope and General Responsibility

Reference	Use in this document
ANSI/SDI A250.11	Recommended installation practice for steel frames and doors.
SDI-122	Installation guidance for hollow metal frames.
NFPA 80	Fire door and opening protection requirements when the assembly is fire-rated.
Project specifications and approved submittals	Control documents for frame type, anchors, rating, wall type, hardware and field conditions.
Local building code and AHJ requirements	Final authority for jobsite compliance.

- These instructions apply to standard hollow metal KD drywall frames and welded hollow metal frames installed in steel stud or wood stud wall construction.
- Installer must verify the wall condition, opening size, hardware schedule, rating requirements and approved submittals before installation.
- Do not install visibly damaged, twisted or incorrect material. Report discrepancies before installation.
- Fire-rated openings must be installed in accordance with the listing, NFPA 80, the approved hardware schedule and AHJ requirements.

2. General Pre-Installation Requirements

- Verify opening number, frame size, handing, jamb depth, wall type, gauge, profile and hardware preparations against approved drawings.

- Confirm rough opening or finished drywall opening dimensions before placing the frame.
- Confirm finished floor elevation, undercut requirements and floor covering thickness before anchoring the frame.
- Confirm wall thickness is compatible with the frame throat. Overbuilt walls, doubled gypsum, lapped studs or improperly placed track can prevent proper fit.
- Inspect the frame for twist, damage, loose reinforcements, incorrect preps or shipping distortion before installation.
- Use spreaders, temporary braces and shims as needed to maintain opening width and alignment during installation.
- Do not use the shipping bar as a spreader unless it is specifically sized and intended for that purpose. Shipping bars are typically for transit only.
- Protect primer and finished surfaces from jobsite damage, concrete splatter, excessive moisture and incompatible field coatings.

3. Field Tools and Materials

- Level, framing square, tape measure and plumb bob or laser.
- Temporary spreader bars sized to the net frame opening width.
- Shims suitable for steel or wood stud construction.
- Self-drilling screws for steel studs or appropriate wood screws for wood studs.
- Approved base anchors, compression anchors, face anchors or stud anchors supplied with or approved for the frame.
- Drill/driver, clamps and hand tools required to assemble KD corners and secure anchors.
- Personal protective equipment appropriate for cutting, drilling and handling steel frames.

4. Installation Tolerances and Anchor Requirements

Condition	Recommended field tolerance / target	Why it matters
Plumb	Within 1/16 inch where practical	Prevents door swing, binding and uneven reveal.
Level head	Within 1/16 inch where practical	Controls top clearance and latch alignment.
Square opening	Diagonal measurements should be equal within practical field tolerance	Prevents racking and hinge bind.
Jamb spacing	Consistent from top to bottom	Maintains proper door clearance.
Typical reveal	Approximately 1/8 inch at jambs and head unless the approved hardware, label or specification requires otherwise	Maintains expected hollow metal door operation.

Frame condition	Typical anchor / fastener	Minimum location guidance	Field check
KD drywall frame	Compression anchors, base anchors and face anchors when supplied or required	Top, middle and bottom of each jamb; base secured at floor line	Tighten evenly. Do not bow jambs.
Welded frame - steel stud	Steel stud anchors with self-drilling screws	At hinge jamb locations and corresponding strike jamb locations; minimum 3 per jamb unless project requires more	Minimum 2 fasteners per anchor. Stud tight to anchor.
Welded frame - wood stud	Wood stud anchors with wood screws	At hinge jamb locations and corresponding strike jamb locations; minimum 3 per jamb unless project requires more	Anchor must bear tight to stud. Shim only as needed.
Floor/base	Base anchor, floor clip or approved floor fastening method	Each jamb base	Confirm finished floor elevation before final fastening.

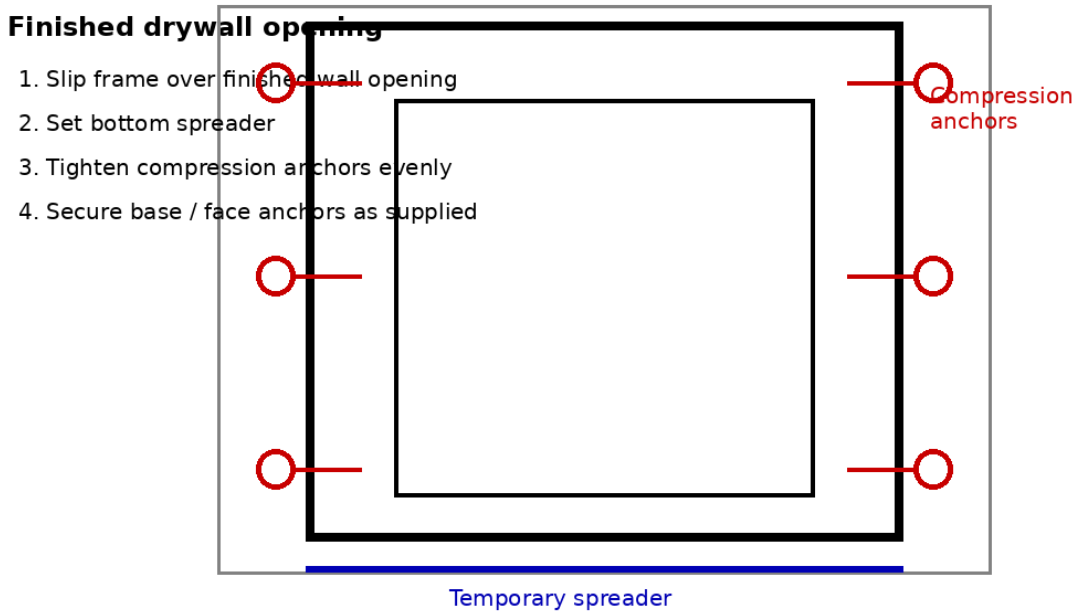
Important: Anchor quantity, spacing and fastener type may vary by rating, wall construction, frame size, windstorm

requirement, project specification or listing. When a project requires more stringent anchoring than this document, follow the more stringent requirement.

5. KD Drywall Frame Installation - Finished Wall / Slip-On Type

- Typical use: interior finished drywall partitions where the frame is installed after the wall board is complete.
- Typical system: knockdown frame head and jambs, mitered corners, compression anchors, base anchoring and face anchoring when supplied or required.
- Opening condition: the finished drywall opening must be straight, square and sized correctly. The frame is not intended to correct a bad wall opening.

KD Drywall Frame - Typical Anchor and Alignment Points



5.1 KD Drywall Opening Verification

- Measure opening width at the top, middle and bottom. Correct wall conditions before setting the frame if measurements vary excessively.
- Measure opening height at both jambs and verify floor elevation. Confirm finish floor conditions before final door clearance decisions.
- Verify jamb depth matches actual wall thickness. A mismatch can cause gaps, loose fit, excessive compression or frame distortion.
- Confirm the drywall returns are clean and free of protruding screws, compound build-up or broken board edges that interfere with the frame throat.

- Where fire rating applies, confirm the wall assembly, frame label, door label, hardware and glazing/lite kit details are compatible.

5.2 KD Drywall Frame Assembly

1. Lay jambs and head on a protected surface and confirm hinge jamb, strike jamb and head orientation.
2. Assemble corners using the factory corner tabs, screws, clips or locking system provided with the frame.
3. Pull miters tight. Do not leave open corner joints or offset faces.
4. Confirm hinge and strike preparations align with the door and hardware schedule before placing the frame in the opening.
5. Do not field cut, drill or modify fire-rated frames unless specifically permitted by the listing and approved project documents.

5.3 KD Drywall Frame Placement and Anchoring

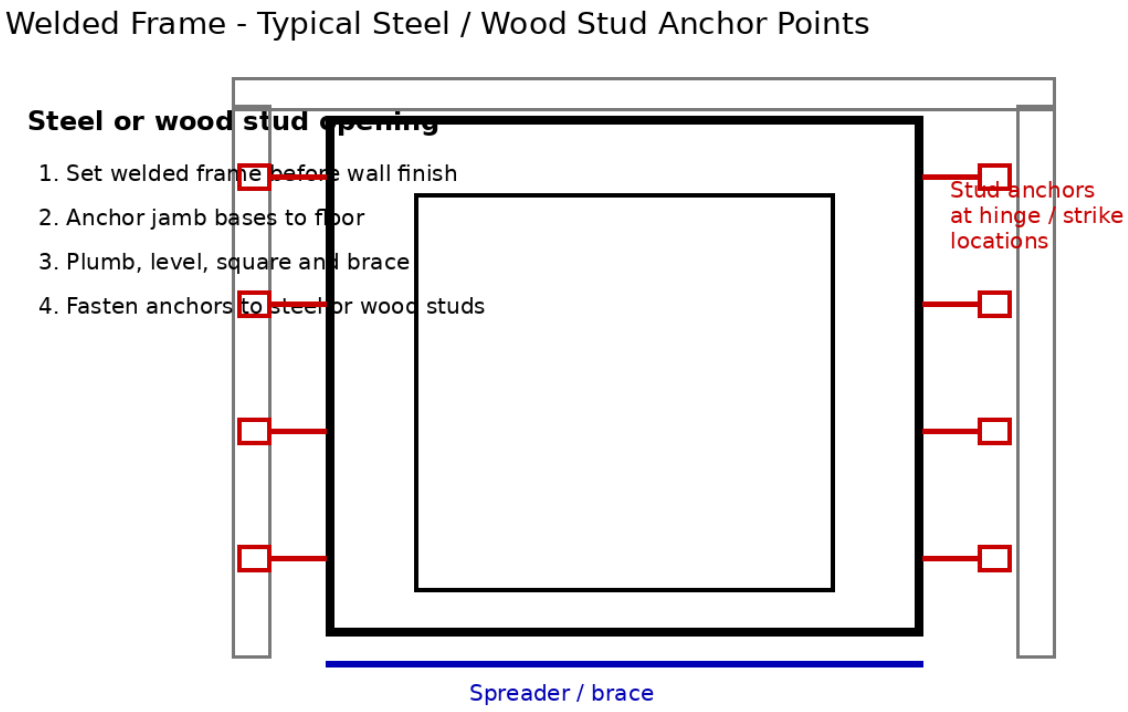
6. Slip the assembled frame over the finished drywall opening without forcing the frame into place.
7. Install a properly sized bottom spreader. Add a mid-height brace when needed to maintain jamb spacing.
8. Seat the frame evenly against both wall faces. Check for wall irregularities before tightening anchors.
9. Tighten compression anchors gradually and evenly, alternating between jambs. Do not over-tighten; over-tightening can bow the jamb or reduce door clearance.
10. Secure base anchors at the floor line or sill track as supplied. Where face anchors are provided or specified, install them after the frame is aligned.
11. Recheck plumb, level, square and opening width after all anchors are tightened.
12. Temporarily hang the door when practical to verify reveal, latch alignment and swing before final acceptance.

5.4 KD Drywall Common Field Problems

Observed issue	Likely cause	Correction before acceptance
Jamb bows inward	Compression anchors overtightened	Loosen and retighten evenly; verify wall thickness.
Frame loose on wall	Opening oversized, wall irregular or anchors not engaged	Verify opening; adjust anchors; correct wall condition.
Miter joint open	Improper KD corner assembly	Reassemble corner and confirm tabs/screws are locked.
Door rubs head or strike jamb	Opening not square, finished floor assumption wrong or frame racked	Recheck plumb/level/square and floor elevation.
Uneven reveal	Frame twist, wall not flat or anchors tightened unevenly	Adjust anchors, shim as needed and verify by hanging door.

6. Welded Frame Installation - Steel Stud or Wood Stud Construction

- Typical use: new construction or framed wall openings where the welded frame is set before wall finish.
- Typical system: factory welded frame, floor/base anchoring, stud anchors at jambs, spreaders and temporary bracing.
- Opening condition: rough opening, floor elevation and wall framing must be coordinated before the frame is secured.



6.1 Welded Frame Pre-Set Verification

- Verify rough opening size and confirm the frame will be installed at the correct floor elevation.
- Check that the frame matches the approved opening schedule, including handing, hardware preparations, anchors, label and jamb depth.
- Confirm adjacent studs, sill track and head track are located and secured so the frame can be anchored without twisting.
- Install a bottom spreader sized to the net opening width. Use additional temporary bracing where required by frame size or field condition.
- Check factory welds, corners, face alignment and frame squareness before installation.

6.2 Set, Brace and Anchor the Welded Frame

13. Place the frame in the rough opening at the correct wall plane and finished floor elevation.
14. Anchor each jamb base to the floor or sill condition using approved base anchors or fasteners.
15. Plumb both jambs in the opening and level the head. Check both faces of the frame, not just the stop side.
16. Square the frame by comparing diagonal measurements and verifying consistent opening width at the top, middle and bottom.
17. Brace the frame to prevent movement during stud attachment and wall board installation.

18. Attach steel stud anchors with appropriate self-drilling screws. Use a minimum of two fasteners per anchor unless the project requires more.
19. Attach wood stud anchors with appropriate wood screws. Studs must bear tightly to anchors; do not leave unsupported gaps.
20. Install studs tight to frame anchors and install the header above the frame. Recheck alignment after every major fastening step.
21. Maintain spreaders and bracing until the wall is sufficiently secured to prevent frame movement.

6.3 Steel Stud Specific Notes

- Steel studs must be straight, secured to track and positioned tight to the frame anchors.
- Fasteners must penetrate and hold the stud anchor without stripping the stud.
- Do not allow overlapping studs, double studs or misaligned track to increase wall thickness into the frame throat.
- Coordinate electrical raceways, conduits and access control preparations before wall closure.

6.4 Wood Stud Specific Notes

- Wood framing must be dry, straight and securely fastened before frame anchoring.
- Use wood screws appropriate for the stud condition and anchor type.
- Shim only as necessary to maintain plumb and square. Shims must not create a flexible or unsupported anchor condition.
- Coordinate casing, trim, wall finish and floor finish details before final acceptance.

6.5 Welded Frame Common Field Problems

Observed issue	Likely cause	Correction before wall closure
Frame twisted	Studs pulled frame out of plane or anchors tightened unevenly	Loosen, brace, plumb both faces and refasten.
Door sag or hinge bind	Missing/loose hinge-side anchors or unsupported stud condition	Verify anchors at hinge locations and fastener engagement.
Strike does not align	Frame racked, header not level or floor elevation missed	Recheck diagonal, level head and finished floor condition.
Frame moves during drywall	Insufficient bracing or wall board forced into frame	Rebrace and correct drywall interference.
Uneven wall fit	Wrong jamb depth or wall thickness build-up	Verify wall assembly against frame throat before closure.

7. Fire-Rated and Labeled Opening Notes

- Do not remove, cover, alter or paint over a fire label so it cannot be read.
- Do not make unauthorized field modifications to labeled frames. Field preparation must comply with the listing, NFPA 80 and project approvals.
- Fire-rated assemblies require compatible labeled doors, frames, hardware, glazing, gasketing and wall construction.
- Clearances, latching, self-closing operation and hardware function must be verified after installation.
- Final acceptance is subject to the authority having jurisdiction and project inspection requirements.

8. Final Inspection Checklist

Check item	KD drywall	Welded steel/wood stud

Correct opening number, size, handing and hardware prep verified	☐	☐
Frame undamaged and installed at correct floor elevation	☐	☐
Jambs plumb, head level and opening square	☐	☐
Opening width consistent at top, middle and bottom	☐	☐
Anchors installed and tightened/fastened correctly	☐	☐
Base anchoring complete	☐	☐
Door hung and reveals verified where practical	☐	☐
Self-closing and latching verified where required	☐	☐
Fire label visible and unaltered where applicable	☐	☐
Installer has corrected wall interference or frame distortion before acceptance	☐	☐

9. Limitations and Disclaimer

- These instructions are general installation guidance and are not a substitute for approved shop drawings, project specifications, code requirements or listed assembly requirements.
- Site conditions vary. The installer is responsible for confirming that the opening, wall construction, anchors and fasteners are suitable for the specific project condition.
- DKS is not responsible for improper field installation, unauthorized modifications, use of incompatible hardware, incorrect wall construction or failure to follow applicable codes and project documents.
- When conflicts exist among this document, project specifications, approved submittals, listings and local code, the more stringent requirement should be followed or clarified before installation.

Sincerely,

DKS Steel Door and Frame Systems, Inc.