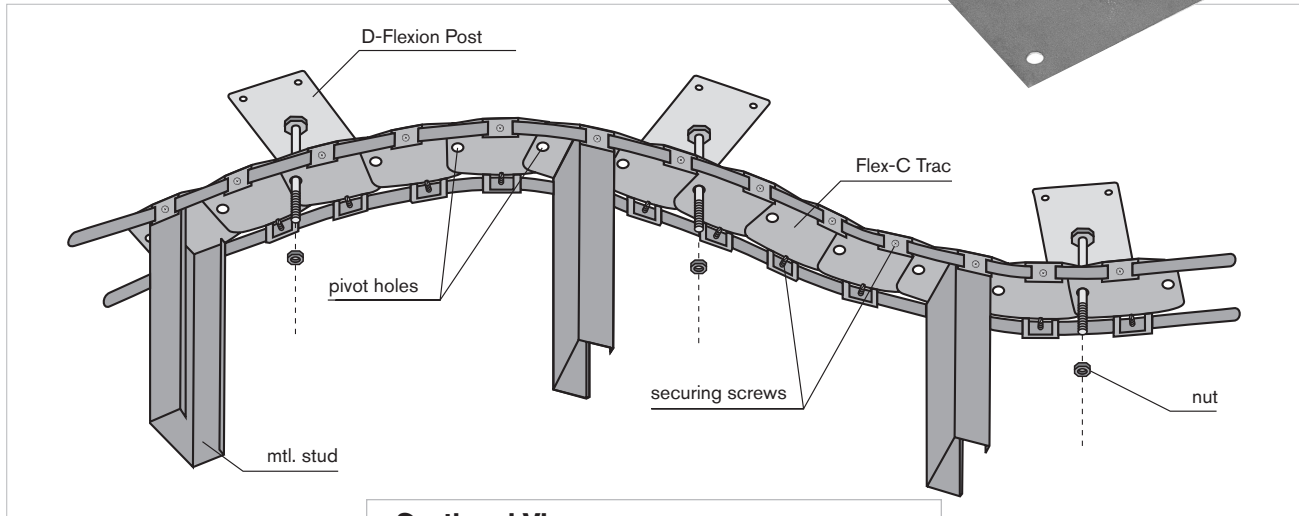
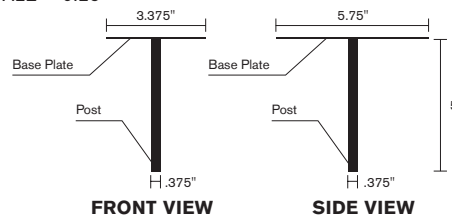


# D-Flexion Post™



## Sectional View

SCALE = 0.25



**The D-Flexion Post solves a long-standing problem in a simple, direct way. The problem has been in figuring out how to allow for vertical deflection in a curved wall.**

**D-Flexion Post** is made to work hand in hand with Flex-C Trac, the innovative product that has saved so many framers the headaches that come with framing curved walls.

**D-Flexion Post** is made of galvanized steel and will allow 4 inches of total vertical movement.

To build a vertically deflecting curved wall with D-Flexion Post:

*First*, form and secure Flex-C Trac in the desired curve.

*Second*, insert the D-Flexion Post into a pivot hole of Flex-C Trac. Use as many Posts as needed for the desired lateral strength of the wall.

*Third*, after confirming your layout, anchor D-Flexion Post to the top deck using the pre-punched holes in the base plate.  
*Last*, install the wall studs.

- Post spacing charts available

## SPECIFICATIONS

### Base Plate:

- ASTM A653, galvanized steel
- Standard protective coating equal or superior to ASTM A653 coating designation G-40 or A-40
- Dimensions: 3.375" x 5.75", .060" thick

### Post:

- ASTM A307, Grade A, zinc plated steel bolt
- Dimensions: 5" length, .375" diameter

**Instructions for building curved deflection walls on back.**

## PART 1 – GENERAL

### 1.1 DESCRIPTION

- A. Scope of Work  
All interior and exterior load bearing and non load-bearing light gauge steel and wood stud deflection assemblies and connections.

### 1.2 SUMMARY

- A. This Section includes the following:
  1. Exterior and Interior non load-bearing wall deflection connections and assemblies.
  2. Exterior and Interior load-bearing wall deflection connections and assemblies.

### 1.3 PERFORMANCE REQUIREMENTS

- A. Engineering Responsibility: Engage a fabricator who assumes undivided responsibility for engineering deflection connections and assemblies by employing a qualified professional engineer to prepare design calculations, shop drawings, and other structural data.
- B. All Exterior and Interior load-bearing deflection post applications are to be engineered by a qualified professional Engineer.

### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced Installer who has completed cold-formed metal framing similar in material, design, and extent to that indicated for this project and with a record of successful in-service performance.
- B. Standard
  1. Work shall meet the requirements of the following standards:
    - a. American Iron and Steel Institute (A.I.S.I.) "Design of Cold Formed Steel Structural Members," 1986 with 1989 amendments.
    - b. American Welding Society (A.W.S.) D.1.3, 1981 "Structural Welding Code – Sheet Steel."
    - c. American Society for Testing Materials (A.S.T.M.)
    - d. American Institute of Steel Construction (A.I.S.C.) "Manual of Steel Construction," 9th edition.
    - e. All pertinent Federal, State, and Local codes.
  2. The most stringent requirements shall govern in conflicts between specified codes and standards.
  3. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification within the past twelve months
- C. Inspection
  1. As directed by Architect, Owner's testing agency may inspect the maintenance of a quality control program including spot checking weldments and welding procedures in accordance with A.W.S. standards.
  2. Full responsibility for quality control shall remain with the Contractor.

### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect D-FLEXION POST from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Store D-FLEXION POST, protect with waterproof covering, and ventilate to avoid condensation.

### 1.6 SUBMITTALS

- A. Structural Calculations
  1. Submit structural calculations prepared by the Professional Engineer of record. Calculations shall include, but are not limited to:
    - a. Description of design criteria.
    - b. Engineering analysis depicting stress and deflection (stiffness) requirements for each framing application.
    - c. Selection of deflection connection components and accessories.
    - d. Verification of attachments to structure and/or adjacent framing components.
- B. Drawings
  1. Submit drawings prepared by the manufacturer for approval by the Project Architect and Engineer. These drawings should include:
    - a. Cross-sections, plans and/or elevations depicting component locations.
    - b. Connection details showing screw types and locations weld lengths and locations or other related fastener requirements.

## PART 2 – PRODUCTS

### 2.1 AVAILABLE MANUFACTURERS:

- A. Manufacturers offering D-FLEXION POST that may be incorporated in the work include, and are limited to, the following:
  1. FLEX-ABILITY CONCEPTS - 3840 N. Tulsa Ave, Oklahoma City, OK 73112 | Tel 405.996.5343 | Fax 405.996.5353  
www.flexabilityconcepts.com

### 2.2 MATERIALS

- A. Galvanized – Steel bracket base:
  1. Coating Designation: Equal or superior to ASTM A653 G-40 or A-40
  2. Thickness: .060 inches
- B. .375" dia. 5" long bolt (post) : ASTM A307, and as follows:
  1. Grade: A
  2. Coating: zinc plated

### 2.3 D-FLEXION POST

- A. D-FLEXION POST: Manufacturer's standard steel deflection post with punched fastener holes in depths indicated.

### 2.4 D-FLEXION POST ACCESSORIES

- A. Fabricate D-FLEXION POST accessories of the same material and finish used for D-FLEXION POST with minimum yield strength of 33,000 psi.
- B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated.

### 2.5 FASTENERS

- A. Mechanical Fasteners: Corrosion-resistant coated, self-drilling, self-threading steel screws.
- B. Welded Electrodes: Comply with AWS standards.

### 2.6 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: SSPC-Paint 20 of DOD-P-21035, with dry film containing a minimum of 94 percent zinc dust by weight.

### 2.7 FABRICATION

- A. Fabricate D-FLEXION POST connections and accessories plumb, square, true to line, true to radius, and with connections securely fastened, according to manufacturer's recommendations and the requirements of this Section.
  1. Fabricate assemblies in jig templates or free form scribed radiuses in conjunction with FLEX-C Trac framing.
  2. Fasten D-FLEXION POST by welding or screw fastening, as standard with fabricator. Wire tying of D-FLEXION POST members is not permitted.
    - a. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
  3. Fasten other materials to D-FLEXION POST by welding, bolting, or screw fastening, according to manufacturer's recommendations.
- B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies to prevent damage or distortion.
- C. Fabrication Tolerances: Fabricate assemblies as required.

## PART 3 – EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. D-FLEXION POST connections may be shop or field fabricated for installation or it may be field assembled.
- B. Install D-FLEXION POST and accessories plumb, square, true to line, true to radius, and with connections securely fastened, according to manufacturer's recommendations and the requirements of this Section.
  1. Do not cut D-FLEXION POST base plate or threaded steel post.
  2. Fasten D-FLEXION POST members by welding or screw fastening, as standard with fabricator. Wire tying of D-FLEXION POST members is not permitted.
    - a. Comply with AWS requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    - b. Locate mechanical fasteners and install according to D-FLEXION POST manufacturer's instructions with attachments at each fastener location in the base plate.
- C. Install D-FLEXION POST in intervals specified by Project Architect or Engineer.
- D. Provide temporary bracing and leave in place until framing is permanently stabilized.
- E. Do not bridge building expansion and control joints with D-FLEXION POSTS. Independently frame both sides of joints.

### 3.2 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed D-FLEXION POSTS with galvanizing repair paint according to ASTM A 780 and the manufacturer's instructions.
- B. Touch up painting: Wire brush, clean, and paint scarred areas, welds, and rust spots on fabricated and installed prime-painted, D-FLEXION POSTS.
  1. Touch up painted surfaces with same type of shop paint used on adjacent surfaces.
- C. Provide final protection and maintain conditions in a manner acceptable to manufacturer and installer to ensure that D-FLEXION POSTS are without damage or deterioration at the time of Substantial Completion.

### Instructions for Building Curved Deflection Walls

1. Form Flex-C Trac into the desired curve and secure the shape by hammerlocking or screwing through the side holes as recommended.
2. Form a corresponding curve by inverting the original and mating them, back to back, to match precisely.
3. Fasten the bottom Flex-C Trac curve to the floor in the desired location.
4. Plumb up to the surface where you want to fasten the upper curved Flex-C Trac.
5. Insert a D-Flexion Post through a pivot hole in the curve you have made for the top of the wall. Insert as many as you need for the desired strength of the wall.
6. Thread a nut on the end of the D-Flexion Post a few turns.
7. Lift the top curve of Flex-C Trac (with inserted Posts) tight up to the desired plumb marks on the ceiling. (This normally requires more than one person.)
8. Turn the rectangular plate of the D-Flexion Post so that the anchoring holes are visible and accessible.
9. Anchor to the top deck or surface using your preferred method. (Screws, powder actuated fasteners, etc. are acceptable.)
10. When you have secured the Posts, the Flex-C Trac will hang on the D-Flexion Post while you install the studs. (After you have completed the installation of the wall studs, the nuts may be removed or left on, as they are primarily to aid in installation.)

**Note-** If you desire 1" deflection (2" total vertical) cut the studs at least one inch shorter than the top deck. Standard D-Flexion Post will accommodate up to 2 1/4" deflection (4 1/2" total vertical movement).