

PART 1 – GENERAL

1 DESCRIPTION

- A. Scope of Work All interior and exterior load-bearing and non load-bearing light gauge steel and wood studs, track, joists, trusses, bridging and related accessories are as indicated on the Contract Drawings and specified herein.
- B. Related work specified elsewhere.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Exterior and Interior non load-bearing walls.
 - 2. Exterior and Interior load-bearing walls.

1.3 PERFORMANCE REQUIREMENTS

- A. Engineering Responsibility: Engage a fabricator who assumes undivided responsibility for engineering FLEX-C ARCH metal framing by employing a qualified professional engineer to prepare design calculations, shop drawings, and other structural data.
- B. Design exterior non load-bearing curtainwall framing to accommodate lateral deflection without regard to contribution of sheathing materials.
- C. All Exterior and Interior load-bearing 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 FLEX-C ARCH metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.
- B. Store FLEX-C ARCH metal framing, 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 framing 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.
 - c. Where the Contractor intends on erecting prefabricated/prefinished panels, drawings depicting panel configurations, dimensions and locations would be developed by the Contractor.

PART 2 – PRODUCTS

2.1 AVAILABLE MANUFACTURERS:

- A. Manufacturers offering FLEX-C ARCH metal framing 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 Sheet ASTM A 653, and as follows:
 - 1. Coating Designation: Galvanized Steel equal or superior to ASTM A653 G40 or A40
 - 2. Grade: 33

2.3 ARCH FRAMING

- A. Flex-C Arch: manufacturer's standard flexible U-shaped channel assembly with screw attachments and hammerlock tabs at each segment for securing desired radius.

2.4 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories of the same material and finish used for framing members; with a 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 drill screws.
 - 1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.
- 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 FLEX-C ARCH metal framing 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.
 - 2. Extreme care should be taken when handling or cutting any metal products. Observe all safety precautions when handling or cutting FLEX-C ARCH .
 - 3. Cut FLEX-C ARCH metal framing by sawing or shearing; do not torch cut.
 - 4. Fasten FLEX-C ARCH metal framing by welding or screw fastening, as standard with fabricator. Wire tying of FLEX-C ARCH framing 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 FLEX-C ARCH manufacturer's instructions with screw penetrating the web and slidable side angle and joined members by not less than 3 exposed screw threads.
 - 5. Fasten other materials to FLEX-C ARCH metal framing 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. FLEX-C ARCH metal framing may be shop or field fabricated for installation, or it may be field assembled.
- C. Install FLEX-C ARCH metal framing 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. Extreme care should be taken when handling or cutting any metal products. Observe all safety precautions when handling or cutting FLEX-C ARCH .
 - 2. Cut FLEX-C ARCH members by sawing or shearing; do not torch cut.
 - 3. Fasten FLEX-C ARCH members by welding or screw fastening, as standard with fabricator. Wire tying of FLEX-C ARCH 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 FLEX-C ARCH manufacturer's instructions with screw penetrating the web and slidable side angle and joined members by not less than 3 exposed screw threads.
 - c. Install FLEX-C ARCH members in one or multi-piece lengths as specified.
 - d. Splice FLEX-C ARCH segments by overlapping the webs and slidable angles of the assemblies and joining them using approved screw fasteners with screw penetrations of not less than 3 exposed screw threads.
 - e. Provide temporary bracing and leave in place until framing is permanently stabilized.
 - f. Do not bridge building expansion and control joints with FLEX-C ARCH metal framing. Independently frame both sides of joints.
 - g. Fasten reinforcement plate over web penetrations that exceed size of manufacturer's standard punched openings.

3.2 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed FLEX-C ARCH metal framing 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, FLEX-C ARCH metal framing.
 - 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 FLEX-C ARCH metal framing is without damage or deterioration at the time of substantial completion.