

**Lab-Tek™ STEEL DOORS AND FRAMES****Section 08 1110****PART I GENERAL****1.01 SUMMARY**

- A. Description: This section includes Steel Doors, Frames, Sidelites, Transom and Window Frames where shown on the drawings and as specified herein.
- B. Related work not included in this section:
  - 1. Builders finish hardware including gaskets and weather-stripping.
  - 2. Glass and glazing.
  - 3. Sealant and caulking at joints.

**1.02 QUALITY ASSURANCE**

- A. Applicable standards of the following as referenced herein:
  - 1. AAMA, American Architectural Manufacturers Association.
  - 2. ANSI, American National Standards Institute.
  - 3. ASTM, American Society for Testing and Materials.
  - 4. ADA, Americans with Disabilities Act.
  - 5. NFPA 80, National Fire Protection Association
  - 6. NAAMM/HMMA, National Association of Architectural Metals Manufacturers.
  - 7. UL 10C, Standards for Positive Fire Tests of Door Assemblies.
- B. Manufacturer shall have been regularly engaged in manufacturing steel door, frames and window assemblies for a period of ten years. Doors and frames shall be fabricated by a single manufacturer. The manufacturer must have an effective quality control system in place.
- C. Provide current test reports to substantiate that all products have been tested to meet the following criteria.
  - 1. Fire Labeled doors and frames, ASTM E2074, UBC 7.2, UL 10C
  - 2. Performance test, ANSI A250.4
- D. Allowable Tolerances as stated in NAAMM/HMMA Technical Manual.

**1.03 SUBMITTALS:** Submittal Drawings: Show door and frame elevations and sections. Show listing of opening descriptions including locations, gages, and anchors. Show location and details of all openings. Include test reports on the following: Cycle test, Air and Water Infiltration.

**1.04 WARRANTY:** All hollow metal work shall be warranted from defects in workmanship and quality for a period of three (3) years from shipment.

**PART II PRODUCTS****2.01 DOORS:**

- A. The Steel Doors are based on Stiles Custom Metal, Inc. Model Lab-Tek™ ([see www.stilesdoor.com](http://www.stilesdoor.com))
  - 1. Vertical Edges and Top and Bottom Edges: Door shall be built from two unitized face sheets with all four edges of the door folded and joined at center of vertical edges and top and bottom edges. All seams shall be continuously welded with no visible seams on any surface of the door creating a completely smooth hermitically door skin. Welds shall be finished smooth. The use of Mineral fillers is not permitted. Exposed seams are permitted.
  - 2. Single acting doors - beveled 1/8" in 2" profile. Double acting doors - rounded on 2-1/8" radius. All hardware furnished by the hardware contractor for single acting doors shall be designed for beveled edges as specified herein.
  - 3. Door Core: (choose one) [Vertical Steel Stiffened], [Polyurethane], [Endura™ Impact Resistant] [Polystyrene] ([see www.stilesdoor.com](http://www.stilesdoor.com)) Core and inside of door skins shall be completely covered with contact adhesive achieving 100% bond.
  - 4. Integral Astragal: Where required astragals shall be formed as an integral part of the door skin with corresponding recessed area formed into adjacent door. Surface mounted flat plate or "Z" shaped astragals shall not be accepted.

**Lab-Tek™ STEEL DOORS AND FRAMES (continued)**

5. Door thickness shall be 1-3/4".
6. Materials: Doors shall be made of commercial quality, cold-rolled steel per ASTM A1008 / A1008M.
  - a. Interior doors: Face sheets shall be 0.042 in. (18 gage) min. thickness cold rolled steel.
  - b. Exterior doors: Face sheets shall be 0.053 in. (16 gage) min. thickness with zinc coating A 60.
7. Glass Lite Kits: (choose one)

[Structural Glazed]: Internal channel shall be formed with a recess permitting the glass to be structurally glazed completely flush with the face of the door using bacteria resistant structural silicone. There shall be no exposed fasteners.]

[Flush Channel Glazed]: Door skin on clean room side shall be cut out to permit glass to be butted up to the end side surface. Glass shall be held in place on the side opposite clean room with removable glass channels or angle stops at the top and sides. Removable stop at the sill shall be either angle shaped or sloped channel. Removable stops shall be secured to the door with sheet metal screws. Glass shall be wet glazed using bacteria resistant structural silicone.]

8. Door opening tag number shall be permanently engraved into the center hinge reinforcement using a programmable engraver. The engraving shall be deep enough to be read after the hinge reinforcement bar is painted. The use of paper stickers only is not acceptable.
9. Finish: After fabrication, all tool marks and surface imperfections shall be removed, and exposed faces of all welded joints shall be dressed smooth.

**2.02 STEEL PANELS:** Steel panels shall be made of the same material and construction and finished in the same way as specified for doors.

**2.03 FRAMES**

- A. Provisions of this section are applicable to door frames, transom lights, sidelights and window assemblies.
  1. Materials: Frames shall be constructed of 16 gage, 0.053 in. (1.3mm) minimum thickness. Exterior frames shall have an A60 zinc coating.
  2. Construction: Frames shall be welded units of the sizes and types shown on approved shop drawings. Knocked-down frames shall not be accepted. Jamb, header; mullion and sill profiles shall be in accordance with the frame schedule and as shown on the approved submittal drawings.
  3. Mitered corner joints shall have all contact edges closed tight with faces mitered and stops butted. Faces and soffits shall be continuously welded. The use of gussets or splice plates shall not be acceptable. All other joints shall have faces continuously welded. Faces shall be finished smooth. Mineral fillers are not permitted.
  4. When shipping limitations so dictate, frames for large openings shall be fabricated in sections designated for assembly in the field by installer. Field joints shall be made in accordance with approved submittal drawings and shall be field welded by installer.

**2.04 FINISH HARDWARE:** Doors and frames shall be mortised, reinforced, drilled and tapped at the factory for completely templated mortised hardware only, in accordance with the final approved hardware schedule and templates provided by the hardware supplier. Where surface mounted, anchor hinges, or non-template mortise hardware is to be applied, doors shall be reinforced, with all drilling and tapping done by others in the field. Reinforcement steel shall comply with NAAMM/HMMA 830 and 861.

**2.05 FINISH:** Doors and frames shall be treated to insure maximum paint adhesion and shall be painted on all accessible surfaces with one coat of a rust inhibitive, modified Alkyd, Zinc compound, gray primer that meets or exceeds all ANSI A250.10-98 performance criteria. Primer coat shall be fully cured prior to shipment. Red or brown colored primers shall not be permitted.

**PART III EXECUTION**

**3.01 CLEARANCES AND TOLERANCES** shall be in compliance with NAAMM / HMMA standards.

**Lab-Tek™ STEEL DOORS AND FRAMES (continued)****3.02 SITE STORAGE AND PROTECTION OF MATERIALS**

- A. Deliver and store materials to prevent damaging and marring finishes.
- B. Protection: Protect metal surfaces from contact with lime, mortar, cement, acids, and other harmful surfaces and from careless handling, storage or machining.

**3.03 INSTALLATION**

- A. It shall be the responsibility of the installation contractor to perform the following:
- B. Installation and tolerances shall meet the requirements of HMMA 840 and as further specified here in. Prior to installation, all frames must be checked and corrected for size, swing, square, plumb, alignment, and twist.
- C. Any grout or other bonding material shall promptly be cleaned off of frames or doors following installation. Hollow metal surfaces shall be kept free of grout, tar, or other bonding material or sealer.
- D. Plaster guards and junction boxes are intended to protect hardware mortises and tapped mounting holes from masonry grout of 4" maximum slump consistency which is hand troweled in place. Grouting materials such as gypsum products which require air to dry (cure) shall not be used in any closed section, such as a mullion.
- E. Hardware must be applied in accordance with hardware manufacturer's templates and instructions.
- F. Primed or painted surfaces which have been scratched or otherwise marred during in-stallation including field welding and/or cleaning shall be promptly finished smooth, cleaned, treated for maximum paint adhesion and touched up with a rust inhibitive primer.

End of Section