

*This section includes AMBICO Acoustic Steel Window Frames that are glazed as part of a complete assembly. Items are designed to be fixed-in place and shall be inoperable. These items are an integral part of a laboratory tested assembly that must be supplied by a single manufacturer. This section relies on both the Canadian Steel Door Manufacturers Association (CSDMA.org) standard, as well as on the Hollow Metal Manufacturers Association (NAAMM.org) standard for steel frames. This section includes proprietary, descriptive and performance type specifications. Edit to avoid conflicting requirements.*

## **Part 1            General**

### **1.1                SECTION INCLUDES**

*This article includes a summary of the content of this section which will not be included in other sections. This article is NOT intended to be used as a trade or other form of jurisdictional content.*

- .1        Acoustic pressed steel window frames. Items shall be fixed-in-place and shall be designed to be inoperable.
- .2        [Acoustic hollow metal panels.]
- .3        Glazed lite acoustic steel frames.
- .4        Factory-supplied glass and glazing.

### **1.2                RELATED SECTIONS**

*This article references other specification sections that inter-rely on this section. This listing should include those sections that describe subjects or products that affect this section directly.*

- .1        Section [\_\_\_\_\_ - \_\_\_\_\_]: Masonry mortar fill of metal frames.
- .2        Section 09 81 16 - Acoustic Blanket Insulation: Insulation inside door frames.
- .3        Section 07 92 00 - Joint Sealing: Caulking between doors and adjacent construction.
- .4        Section 09 91 15 - Painting: Field painting of [doors] [frames] [doors and frames].

### **1.3                REFERENCES**

*Edit this article after editing the rest of this section. List reference standards below that are included within the text of this section, when edited for a project specification. Delete references that do not apply to this project.*

- .1        ASTM A480/A480M-06b - General Requirements for Flat-Rolled Stainless Heat-Resisting Steel Plate, Sheet, and Strip.
- .2        ASTM A653/A653M-06 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .3        ASTM E90-04 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
- .4        ASTM E413-04 - Classification for Rating Sound Insulation.
- .5        AWS D1.1/D1.1M:2006, Structural Welding Code - Steel.

- .6 CSDMA Selection and Usage Guide for Steel Doors and Frames, 1990.
- .7 HMMA 802-92 - Manufacturing of Hollow Metal Doors and Frames.
- .8 HMMA 840-99 - Installation and Storage of Hollow Metal Doors and Frames.
- .9 HMMA 865-03 - Guide Specifications For Swinging Sound Control Hollow Metal Doors and Frames.
- .10 ANSI/ICC A117.1-2003 - Standard for Accessible and Usable Buildings and Facilities

#### **1.4 PERFORMANCE REQUIREMENTS**

*Include this article if all window assemblies should meet the same STC requirement; otherwise, specify individual STC for window types in Part 2 or in a schedule. AMBICO steel window frame assemblies can provide minimum Sound Transmission Class STC 33 and maximum STC 56.*

- .1 Acoustic Performance: Minimum Sound Transmission Class (STC) [33] [56] [\_\_\_] tested to ASTM E90. Label indicating sound transmission class shall be applied to the steel window frame assembly.

#### **1.5 SUBMITTALS**

- .1 Section [01 33 00]: Submission procedures.
- .2 Product Data: Provide product data on window construction and [\_\_\_\_\_].
- .3 Shop Drawings: Indicate window frame elevations, anchor types and closure methods, [finishes] and cut outs for glazing.
- .4 Samples: Submit manufacturer's window frame corner sample.
- .5 Test Data:
  - .1 Submit test data indicating compliance with the Sound Transmission Class (STC) requirements. Include laboratory name, test report number, and date of test.
  - .2 Submit certification from test laboratory qualified under the National Voluntary Accreditation Program (NVLAP) of the U.S. Bureau of Standards.
- .6 Installation Instructions: Submit manufacturer's installation instructions.

#### **1.6 QUALITY ASSURANCE**

- .1 Perform work to requirements of [CSDMA (Canadian Steel Door Manufacturers Association)] [HMMA (Hollow Metal Manufacturers Association)] standards.
- .2 Manufacturer: Minimum 5 years documented experience manufacturing acoustic steel window frame assemblies.
- .3 Pre-installation Meeting: Convene a pre-installation meeting [2] [ \_\_\_\_ ] weeks before start of installation of acoustic window frame assemblies. Require attendance of parties directly affecting work of this section, including contractor, architect, installer, and manufacturer's representative. Review installation and coordination with other work.

**1.7 DELIVERY, STORAGE AND PROTECTION**

- .1 Section [01 61 00]: Transport, handle, store, and protect products.
- .2 Comply with HMMA 840.
- .3 Remove window frames from coverings upon receipt on site and inspect for damage.
- .4 Store in vertical position, spaced with blocking to permit air circulation between components.
- .5 Store materials out of water and covered to protect from damage.
- .6 Clean and touch up scratches or disfigurement caused by shipping or handling with zinc-rich primer.

**1.8 WARRANTY**

- .1 Manufacturer's Limited Warranty: Five (5) years from date of supply, covering material and workmanship.

**Part 2 Products****2.1 MANUFACTURERS**

*List the manufacturers acceptable for this project. Edit the subsequent descriptive specifications of Part 2, to identify project requirements and to eliminate any conflict with specified manufacturer's products.*

- .1 AMBICO Limited  
1120 Cummings Avenue  
Ottawa, Ontario, Canada K1J 7R8  
Toll Free Phone 888-423-2224  
Phone 613-746-4663  
Toll Free Fax 800-465-8561  
Fax 613-746-4721
- .2 Other Acceptable Manufacturers:
  - .1 [\_\_\_\_\_].
- .3 Substitutions: [Refer to Section 01 60 00.] [Not permitted.]

**2.2 MATERIALS**

- .1 Sheet Steel:
  - .1 Galvanized steel to ASTM A653/A653M, ZF180 (A60).  
**[OR]**
  - .2 Stainless steel to ASTM A480, Type [304] [316].
- .2 Reinforcement [Channel]: To CSA G40.20/G40.21, coating designation to ASTM A653/A653M, [ZF75] ([A25]).

### 2.3 ACCESSORIES

*AMBICO acoustic, steel window frame assemblies as specified in this section are to be supplied by the window frame manufacturer in order to assure the acoustic integrity of the assembly. AMBICO acoustic, steel, window frame assemblies shall be supplied with glazing as an integral part of the tested assembly.*

- .1 Glazing Stops: Formed [galvanized] [stainless] steel channel, [butted] [mitred] corners; prepared for countersink [tamperproof] screws.
- .2 Glass: Type as tested to achieve acoustic performance ratings. Glazing to be factory supplied loose ready for site installation by others.
- .3 Primer: Rust inhibitive zinc chromate.

### 2.4 FABRICATION

*Specify window frame thickness and other values with caution as they may vary in order to meet the STC rating. Higher STC ratings may require thicker frame jamb depths. AMBICO window frame assemblies are typically lighter in weight than other manufacturers' doors for the same STC rating.*

- .1 Manufacture window frame assemblies to STC rating of [33] [56] [\_\_\_], measured in accordance with ASTM E90. These items are designed to be fixed-in place and shall be inoperable.
  - .1 Factory assemble and weld window frames.
  - .2 Sheet steel, metal thickness and appropriate to maintain door STC ratings
  - .3 Mitred corners, fully welded seams where window frame members intersect.
- .2 Factory-supply glazing in conformance with tested standards. Glazing shall be supplied loose ready for field assembly by others. Glazing details will vary widely in accordance with specified STC ratings
- .3 Affix permanent metal nameplates to window frame assembly, indicating manufacturer's name, frame tag and STC rating where it shall be clearly visible.

### 2.5 FINISHES

- .1 Factory Frame Finish: [Factory applied zinc chromate primer to be applied to all exposed surfaces] [Factory applied zinc chromate primer touch-up only, where product has been welded and ground smooth]. [Stainless steel [2B] [4] [8] finish.] [As scheduled.]

## Part 3 Execution

### 3.1 INSTALLATION

- .1 Install components including acoustic window frame assemblies and glazing in accordance with manufacturer's written instructions.
- .2 Install steel window frames to [CSDMA] [HMMA 840] standards.
- .3 Utilize welders certified by American Welding Society (AWS)] for field welding.

- .4 Coordinate with [masonry] [gypsum board] [concrete] [\_\_\_\_\_] wall construction for anchor placement.
- .5 Set frames plumb, square, level and at correct elevation.
- .6 Allow for deflection to ensure that structural loads are not transmitted to frame.
- .7 Finish paint in accordance with Section 09 91 15.

**3.2 ERECTION TOLERANCES**

- .1 Section 01 73 00: Tolerances.
- .2 Installation tolerances of installed frame for squareness, alignment, twist and plumbness are to be no more than ± 1/16in (1.5mm) in compliance with HMMA 841.

**3.3 FIELD QUALITY CONTROL**

- .1 Provide qualified manufacturer's representative to instruct installers on the proper installation and adjustment of window frame assemblies.
- .2 Provide manufacturer's representative to inspect window frame assembly installation. Correct any deficient window frame assemblies.

**3.4 SCHEDULE**

*Include this article to identify products or installation requirements specified. If window frame schedules are listed on drawings or on separate schedule sheets, do not repeat statements in this article.*

- .1 Acoustic Steel Window Frame Assembly Schedule:

Tag	Room	Nominal Size	Thickness	Material	Glazing	Fire Rating	STC Rating	Comments
D-1	100	900mm x 900mm	175 mm	SS	FS	NFR	42	
D-2	101	1750mm x 900mm	250 mm	GS	FSL	NFR	56	vertical mullion, factory pre-installed
D-3	102	4'0" x 4'0"	8"	GS	FS	NFR	51	
<ul style="list-style-type: none"> <li>Material types: GS = Galvanized Steel, SS = Stainless Steel</li> <li>Glazing types: FS = Factory Supplied, FSL = Factory Supplied Loose</li> <li>Fire Label types: NFR= Non-fire rated</li> </ul>								