Part 1 General

.1 Air Movement and Control Association International, Inc. (AMCA)

.1 AMCA 511-10, Certified Ratings Program – Product Rating Manual for Air Control Devices.

.2 AMCA 500-D-98, Laboratory Methods of Testing Dampers for Rating.

.2 American Society for Testing and Materials International (ASTM)

.1 ASTM A653/A653M-[04a], Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process.

.3 Sheet Metal and Air-Conditional Contractors National Association (SMACNA)

.1 ANSI/SMACNA 006-2012 HVAC Duct Construction Standards, Metal and Flexible 3rd Edition.

1.2 SUBMITTALS

.1 Product Data:

.1 Submit manufacturer's printed product literature, specifications and datasheet in accordance with E3. Include product characteristics, performance criteria, materials and limitations.

.2 Indicate the following:

.1 Materials of construction.

.2 Operating temperatures.

.3 Leakage classification.

.4 Installation method.

.2 Quality assurance submittals: submit following in accordance with Section 01 33 00 - Submittal Procedures.

.3 Closeout Submittals: Provide maintenance data for incorporation into manual specified in Section E4.

1.3 QUALITY ASSURANCE

.1 Certificates: Catalogue or published ratings those obtained from tests carried out by manufacturer or those ordered by manufacturer from independent testing agency.

1.4 DELIVERY, STORAGE, AND HANDLING

.1 Packing, shipping, handling and unloading: Deliver, store and handle materials in accordance with manufacturer's written instructions.

Part 2 Products

2.1 MULTI-LEAF DAMPERS

.1 Frames: 100 mm deep x 25 mm and no less than 2 mm in thickness, mill finish extruded aluminum (6063T5) with mounting flanges on both sides of frame. Frame to be assembled using plated steel mounting fasteners. Entire frame shall be thermally broken by means of two polyurethane resin pockets, complete with thermal cuts.

.2 Blade: extruded aluminum (6063T5), mill finish air-foil profiles, internally insulated with expanded polyurethane foam and shall be thermally broken. Complete blade shall have an insulating factor of R-2.29 and a temperature index of 55.

.3 Blade and Frame Seals: flexible extruded silicone secured in an integral slot within the aluminum extrusions. Blade and frame seals are to be mechanically fastened to eliminate shrinkage and movement over the life of the damper. Adhesive or clip-on type blade seals shall not be approved. Seals shall remain flexible down to -73°C.

.4 Bearings: Celcon inner bearing fixed to an 11 mm aluminum hexagon blade pivot pin, rotating within a polycarbonate outer bearing inserted into the frame. There shall be no metal-to-metal or metal-to-plastic contact.

.5 Hexagonal drive rod, U-bolt fastener and retaining nuts: hexagonal, corrosion-resistant, steel drive rod to provide positive connection to blades and linkage.

.6 Linkage hardware: installed in the frame side. All linkage crank arm and rod hardware parts shall be constructed of mill finished aluminum, complete with corrosion resistant, zinc-plated trunnions and cup-point trunnion screws for a slip-proof grip.

.7 Operating temperatures: -73°C to 85°C.

.8 Leakage: Class 1A at 250Pa w.g. static pressure differential. Standard air leakage data shall be certified under the AMCA Certified Ratings Program.

.9 Dampers shall be made to size required without blanking off free area.

.10 Blade Action:

- .1 Modulated control: opposed blade for volume control and parallel blade for mixing control.
- .2 Two-position control: parallel blade

.11 Mounting: Flanged mounting type.

.12 Acceptable material: TAMCO Series 9000 ECT

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheet.

3.2 INSTALLATION

.1 Install where indicated.

.2 Install in accordance with recommendations of SMACNA and manufacturer's instructions.

.3 Seal multiple damper modules with silicon sealant.

.4 Install access door adjacent to each damper.

.5 Ensure dampers are observable and accessible.

END OF SECTION