

**PART 1 GENERAL**

**1.1 References**

- .1 American Society for Testing and Materials (ASTM)
  - .1 ASTM A 653M- 95 , Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process.

**1.2 Product Data**

- .1 Submit product data.
- .2 Indicate the following:
  - .1 Performance data.
  - .2 Actuator details.

**1.3 Closeout Submittals**

- .1 Provide maintenance data for incorporation into maintenance manual.

**1.4 Certification Of Ratings**

- .1 Catalogue or published ratings shall be those obtained from tests carried out by manufacturer or those ordered by him from independent testing agency.

**PART 2 PRODUCTS**

**2.1 Multi-leaf Dampers**

- .1 Opposed blade type as indicated.
- .2 Extruded aluminum , interlocking blades, complete with extruded vinyl seals, spring stainless steel side seals, and extruded aluminum frame.
- .3 Pressure fit self-lubricated bronze bearings.
- .4 Linkage: plated steel tie rods, brass pivots and plated steel brackets, complete with plated steel control rod.
- .5 Performance:
  - .1 Leakage: in closed position to be less than 2% of rated air flow at 125 Pa differential across damper.
  - .2 Pressure drop: at full open position to be less than 20 Pa differential across damper at 7.6 m/s.
- .6 Insulated aluminum dampers:
  - .1 Frames: insulated with extruded polystyrene foam with R factor of 5.0.
  - .2 Blades: constructed from aluminum extrusions with internal hollows insulated with polyurethane or polystyrene foam, R factor of 5.0.

**2.2 Relief Dampers**

- .1 Automatic multi-leaf aluminum dampers with ball bearing centre pivoted and counter-weights set to open at 15 Pa static pressure.

**PART 3 EXECUTION**

**3.1 Installation**

- .1 Install where indicated.
- .2 Install in accordance with recommendations of SMACNA and manufacturer's instructions.
- .3 Install access door adjacent to each damper.
- .4 Ensure dampers are observable and accessible.

**END OF SECTION**