
Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 23 05 00 - Common Work Results for HVAC

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM A653/A653M-11, Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by Hot-Dip Process.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for dampers and include product characteristics, performance criteria, physical size, finish and limitations.
 - .2 Construction IAQ Management Plan:
 - .1 Submit Indoor Air Quality (IAQ) Plan for pre-occupancy phases of building.
 - .2 During construction meet or exceed the requirements of SMACNA IAQ Guideline for Occupied Buildings Under Construction.

1.4 CLOSEOUT SUBMITTALS

- .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
- .2 Operation and Maintenance Data: submit operation and maintenance data for dampers for incorporation into manual.

1.5 REPLACEMENT MATERIALS

- .1 Where materials or products are specified by trademark name, consult the Instructions to Bidders document for procedures to follow regarding the request for approval of materials or product replacement.

1.6 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
 - .1 Store materials off ground, indoors, in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.

- .2 Store and protect dampers from nicks, scratches, and blemishes.
- .3 Replace defective or damaged materials with new.

Part 2 Products

2.1 MULTI-LEAF DAMPERS

- .1 Opposed blade type.
- .1 Blades and frame from same material as duct.
- .2 Interlocking blades, complete with extruded vinyl seals, spring stainless steel side seals, structurally formed and welded galvanized steel 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: less than 2% of rated air flow in closed position.

2.2 MULTI-LEAF INSULATED DAMPERS

- .1 For use when in contact with outdoor air.
- .2 Opposed blade type.
- .3 Blades and frame from same material as duct.
- .4 Interlocking blades, complete with extruded vinyl seals, spring stainless steel side seals, structurally formed and welded galvanized steel frame.
- .5 Pressure fit self-lubricated bronze bearings.
- .6 Linkage: plated steel tie rods, brass pivots and plated steel brackets, complete with plated steel control rod.
- .7 Performance:
 - .1 Leakage: less than 2% of rated air flow in closed position.
- .8 Aluminum dampers, insulated
 - .1 Frame insulated with extruded polystyrene foam, RSI 0.88.
 - .2 Extruded aluminum dampers, cavities insulated with polyurethane foam, RSI 0.88.

Part 3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for damper installation in accordance with manufacturer's written instructions.

- .1 Visually inspect substrate in presence of Departmental Representative.
- .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

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. See Section 23 33 00 - Air Duct Accessories.
- .5 Ensure dampers are observable and accessible.

3.3 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

END OF SECTION