

**Part 1            General**

**1.1                RELATED SECTIONS**

- |    |  |                  |
|----|--|------------------|
| .1 | Mechanical Systems Starting and Testing: | Section 23 08 23 |
| .2 | Ductwork:                                | Section 23 31 13 |
| .3 | Ductwork Accessories:                    | Section 23 31 30 |
| .4 | Coils:                                   | Section 23 82 10 |

**1.2                QUALITY ASSURANCE**

- .1        The Commissioning Authority will review duct cleaning procedures prior to starting work and perform spot check review of work to determine that duct cleaning has been effectively executed.

**1.3                SUBMITTALS**

- .1        Perform ductwork cleaning using a firm specializing in this type of work. Submit the following information prior to commencing work:
- .1        List of at least five projects of similar size and scope completed by the firm.
  - .2        Name of the superintendent responsible for executing the work and his experience with projects of this scope.
- .2        Submit an outline of the work scope for each air handling system with procedures, equipment, materials and schedule prior to commencing work.
- .3        Submit Certificate of Completion for each air system that duct cleaning has been completed as defined in this specification.

**1.4                DEFINITIONS**

- .1        Level 2 Clean: No visible particulates or deposition after vacuum techniques have been completed.
- .2        Air system: Includes central equipment; supply, return, exhaust fans, coils, dampers, turning vanes, grilles, diffusers, low pressure ductwork (supply and exhaust) that is associated with an air handling system.

**Part 2            Products**

**2.1                MATERIALS**

- .1        Temporary Filters: 3 ply filter element to protect equipment during cleaning operation, meeting either of the following:

- .1 35% dust spot efficiency to ASHRAE 52.1.
- .2 MERV-8 to ASHRAE 52.2.
- .2 Access Ports Covers: reusable, positive locking cover for access ports. Maximum flame spread rating of 0. Friction fit plastic plugs and tape are not acceptable access port cover materials.
- .3 Disinfectant: use one of the following products:
  - .1 Johnson Endback 128
  - .2 Safeguard
  - .3 Microban

### **Part 3 Execution**

#### **3.1 ACCESS DOOR INSTALLATION**

- .1 Installation of access doors in ductwork is specified in the following sections:
  - .1 Section 23 31 30: Ductwork Accessories
  - .2 Section 23 82 10: Coils
  - .3 List additional sections as applicable.

Supply and install additional access doors of the type specified in Section 23 31 30, that are required to complete duct cleaning operations specified in this section.

#### **3.2 DUCT SYSTEM CLEANING**

- .1 Commence Level 2 Standard cleaning after completion of duct system installation and before air handling systems are started. Clean all air systems to Level 2 Standard:
- .2 Install filters as follows:
  - .1 Behind all grilles and diffusers.
  - .2 In front of all duct coils.
- .3 When the duct systems are completed and before any fan systems are operated, clean all ductwork, plenums, coils and air handling equipment by compressed air and mechanical equipment or compressed air and high power suction equipment.
- .4 Do not use mechanical brushes on acoustic lined ductwork.
- .5 Remove all filters within five days after vacuum procedures is complete. Ensure the number of filters removed is equal to the number of filters installed.

- .6 Seal all ductwork outlets and plenum openings with polyethylene sheet cover after ductwork has been cleaned.
- .7 Mark positions of all balancing dampers prior to start of cleaning work, and return dampers to pre-cleaning positions after cleaning has been completed.
- .8 Repeat duct cleaning procedures on all sections found not satisfactory by the Commissioning Authority.
- .9 Submit Certificate of Completion for each air system that cleaning has been completed.

**3.3 DUCT SYSTEM CLEANING**

- .1 Clean air systems to a Level 2 Standard.
- .2 Submit certificate of completion for review by Departmental Representative.
- .3 Repeat duct cleaning procedures on all sections found not satisfactory by the Commissioning Authority.

**END OF SECTION**