

**Part 1            General**

**1.1            SECTION INCLUDES**

- .1       Includes general requirements for commissioning facilities and facility systems.

**1.2            PRECEDENCE**

- .1       Division 1 Sections take precedence over technical specification sections in other Divisions of this Project Manual.

**1.3            RELATED SECTIONS**

- .1       Section 01 45 00 - Quality Control
- .2       Section 22 34 36 - Domestic Water Heaters
- .3       Section 23 33 14 - Dampers - Balancing
- .4       Section 23 72 23 - Packaged Air-to-Air Heat Recovery
- .5       Section 23 83 10 - In Floor Heating System

**1.4            QUALITY ASSURANCE**

- .1       Provide testing organization services under provisions specified in technical specification Section.
- .2       Testing organization: current member in good standing of AABC, certified to perform specified services.
- .3       Comply with applicable procedures and standards of the certification sponsoring association.
- .4       Perform services under direction of supervisor qualified under certification requirements of sponsoring association.

**1.5            REFERENCES**

- .1       Associated Air Balance Council (AABC): National Standards For Field Measurements and Instrumentation, Total Systems Balance, Air Distribution-Hydraulics Systems.

**1.6            SUBMITTALS**

- .1       Prior to start of Work, submit name of Contractor personnel proposed to perform services. Designate who has managerial responsibilities for coordination of entire testing, adjusting and balancing.
- .2       Submit documentation to confirm personnel compliance with quality assurance provision.
- .3       Submit 3 preliminary specimen copies of each of report forms proposed for use.

- .4 Fifteen days prior to Substantial Performance, submit 3 copies of final reports on applicable forms.

#### **1.7 PROCEDURES - GENERAL**

- .1 Comply with procedural standards of certifying association under whose standard services will be performed.
- .2 Notify Departmental Representative 3 days prior to beginning of operations.
- .3 Accurately record data for each step.
- .4 Report to Departmental Representative any deficiencies or defects noted during performance of services.

#### **1.8 FINAL REPORTS**

- .1 Organization having managerial responsibility shall make reports.
- .2 Ensure each form bears signature of recorder, and that of supervisor of reporting organization.
- .3 Identify each instrument used, and latest date of calibration of each.

#### **1.9 CONTRACTOR RESPONSIBILITIES**

- .1 Prepare each system for testing and balancing.
- .2 Cooperate with testing organization and provide access to equipment and systems.
- .3 Provide personnel and operate systems at designated times, and under conditions required for proper testing, adjusting, and balancing.

#### **1.10 PREPARATION**

- .1 Provide instruments required for testing, adjusting, and balancing operations.
- .2 Make instruments available to Departmental Representative to facilitate spot checks during testing.
- .3 Retain possession of instruments and remove at completion of services.
- .4 Verify systems installation is complete and in continuous operation.
- .5 Verify lighting is turned on when lighting is included in cooling load.
- .6 Verify equipment such as computers, laboratory and electronic equipment are in full operation.

#### **1.11 EXECUTION**

- .1 Test equipment, balance distribution systems, and adjust devices for systems.

- .2 Test hydronic systems, adjust and record liquid flow at each piece of equipment.

**1.12 SCHEDULE**

- .1 Systems requiring testing, adjusting and balancing services;
  - .1 Dampers.
  - .2 In-floor heating.
  - .3 Heat recovery ventilators.
  - .4 Domestic water heaters

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION**