

**PART 1 GENERAL**

1.01 Purpose:

- A. This standard is intended to provide useful information to the Professional Service Provider (PSP) to establish a basis of design. The responsibility of the engineer is to apply the principles of this section such that the University may achieve a level of quality and consistency in the design and construction of their facilities. Deviations from these guidelines must be justified through LCC analysis and submitted to the University for approval.

1.02 References:

- A. Codes and Standards that are Standard at the University:

1.03 Requirements:

- A. Medium and high-pressure ductwork is hereby defined as ductwork subject to operating pressures in excess of 2" w.g., positive or negative.
- B. Low pressure ductwork is hereby defined as ductwork subjected to velocities of 2500 fpm or less, and operating pressure of 2" w.g. or less, positive or negative.
- C. Seal ductwork to SMACNA seal Class A. All sealant shall be UL rated with NFPA flame spread of no more than 5 and smoke developed of 0.
- D. Provide balancing dampers with inspection ports at supply, return, and general exhaust branches when connected to larger ducts, as required, for air balancing.
- E. Ductwork taps shall be conical or clinch collar with 45 degree or boot connections.
- F. Connect air devices to low pressure ductwork with five-foot maximum length of flexible duct.

- M. For noise-prone and/or noise-sensitive applications, provide double-wall ductwork with a perforated inner liner for a minimum of ten feet after the first elbow from both supply and return plenums of the air handling unit(s). Liner shall be 2" thick, tested against erosion to at least 110% of scheduled duct velocity, and treated with an anti-microbial surface coating.
  
- N. Ducts entering and exiting air handling units shall be labeled as outdoor air, supply air, return air, exhaust air or relief air. Labels shall be visible and legible from floor level and include airflow

## **PART 3 EXECUTION**

### 3.01 Installation of Ductwork:

- A. General: Assemble and install ductwork in accordance with recognized industry practices which will achieve air-tight and noiseless (no objectionable noise) systems, capable of performing each indicated service. Install each run with minimum number of joints. Align ductwork accurately at connections, within 1/8" misalignment tolerance and with internal surfaces smooth. Support ducts rigidly with suitable braces, and anchors of type which will hold ducts true-to-shape and to prevent buckling.
  
- B. Penetrations: Where ducts pass through interior partitions and exterior walls, and are exposed to view, conceal space between construction opening and duct or duct insulation with sheet metal