

OKLAHOMA STATE UNIVERSITY - BUILDING DESIGN STANDARDS

PART 1 GENERAL

1.01 Intent of Document

The information included in this section is intended to identify the SPECIFIC ITEMS required by Oklahoma State University in the design and construction of facilities on the campus. Items of "normal, code, industry or standard construction practice" are not included in this section.

1.02 Design Criteria

- A. All metal and flexible ductwork shall conform to latest edition of SMACNA HVAC duct construction standards. All bends in hard and flexible ducts to be by manufactured metal bends.
- B. Install ducts, unless otherwise indicated, vertically and horizontally and parallel and perpendicular to building lines; avoid diagonal runs.
- C. Seal all joints and seams. Use a manufactured joint flange system with a gasketed seal. If a gasketed flange joint cannot be used, apply sealant to male end connectors before insertion, and afterward to cover entire joint and sheet metal screws. Sealant shall remain flexible (non-hardening type). Pressure test all assemblies to ensure air-tight conditions.
- D. Show accessible manual volume dampers at major divisions in all duct systems to permit balancing of air quantities. Each supply outlet and each exhaust branch must have a damper. Locate the dampers adjacent to the main branch connection to minimize noise levels in the space.
- E. Air Inlets and Exhausts
 - 1. The building ventilation system outside air inlet shall be located away from ground-level pollution sources and building exhausts. Preferred location is high-up on prevailing wind side of building. Keep intakes away from loading docks, and vehicular areas, parking lots and trash areas.
 - 2. Provide duct access from within the building for maintenance and cleaning of all louvered or screened openings from the inside.
- F. Duct Air Velocities
 - 1. Select duct velocities to meet the N.C. requirements of each occupied space.
- G. Locate exhaust fans so that a negative pressure exists in all fume hood ducts within the building.
- H. Flexible duct shall not be used as an elbow. Limit flexible duct to no more than 6 feet.

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- I. Do not use mechanical rooms as outside air or relief/exhaust air plenums. Duct all outside air and relief/exhaust air ducts to outdoors.
- J. Minimize return air plenums. Provide ducted return air systems.

PART 2 PRODUCTS**2.01 Manufactured Duct Joints**

- A. Manufacturer: Ductmate Industries, Inc. or approved equal.
- B. Transverse duct joints may be made with the Ductmate System, or approved equal, components of standard catalog manufacture.

2.02 Fibrous Glass Ductwork and Interior Duct Insulation

- A. Fibrous glass ductwork is not allowed.
- B. Interior duct insulation within metal ductwork is not allowed.

PART 3 EXECUTION**3.01 Installation**

- A. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials in proper relation with adjacent construction and with uniform appearance for exposed work. Coordinate with work of other sections. Comply with applicable regulations and code requirements. Provide proper clearances for servicing.
- B. Maintain indicated fire ratings of walls, partitions, ceilings and floors at penetrations. Seal with firestopping to maintain fire rating.
- C. Clearly label and tag all components.
- D. Test and balance all systems for proper operation.
- E. Restore damaged finishes. Clean and protect work from damage.
- F. Instruct Owner's personnel in proper operation of systems.

END OF SECTION 15815