SECTION 15891D - METAL DUCTWORK

A. SECTION INCLUDES

1. Metal and Flexible Air Duct Distribution and Exhaust Systems

B. DESIGN CRITERIA

1. Specify duct pressure classification on drawings. Design for potentially high operating pressures. Consider the effect of a system malfunction; such as, a terminal damper that may unexpectedly close, causing the fan to work against a near dead head.
2. Specify appropriate design considerations for exhaust systems with substantial operating negative pressure.
3. Design duct size such that the air velocity does not exceed 2700 fpm.
4. All supply ductwork on air-conditioned supplies, shall be externally (internal insulation is not permitted) insulated.
5. Design ductwork attenuation to limit room noise levels to 35 NC. *Flexible ductwork shall not be used as flexible connections to equipment or air terminal units. Air turning devices such as turning vanes, splitter vanes, and extractors in non-filtered air streams should be avoided.*
6. Limit the length of flexible ductwork to not exceed 3 ft (Code will allow up to 14 ft).
7. Coordinate access doors as required and clearly specify locations and type.
8. Avoid underslab and buried ductwork; but if unavoidable, select from following duct materials: fiberglass reinforced plastic (FRP), vinyl chloride coated steel, or stainless steel.
9. Specify that all dampers and operable devices be fully demonstrated, after installation, to assure proper operation.
10. Specify that the contractor demonstrate proper operation of approximately 10% of all fire and smoke dampers, at final acceptance inspection. The University Architect shall randomly select the dampers to be demonstrated. Failure of any one of the demonstrated dampers shall require the contractor to check and demonstrate all dampers. Specify that the contractor certify, in writing, that all fire and smoke dampers were demonstrated to operate, and were checked to be in proper position and functional order, after installation.

END