COLUMBIA UNIVERSITY
FACILITIES

DESIGN REQUIREMENTS

AIR OUTLETS AND INLETS

GENERAL INFORMATION

1.1 This section applies to grilles, diffusers and registers.

DESIGN REQUIREMENTS

2.1 Check location of outlets and make necessary adjustment in position to conform with architectural features, symmetry and lighting arrangement.

2.2 Size diffusers, registers and grilles for a maximum of 5 NC below space NC criteria. Example: Diffusers in an NC 30 space shall be selected for NC 25.

2.3 In VAV systems consider sizing to 80 percent design flow to prevent dumping at low flow.

2.4 Identify the discharge orientation of all air pattern controllers.

2.5 Avoid use of linear diffusers. Where their use cannot be avoided a CFD model might be requested to demonstrate effective air motion.

2.6 Ducted returns and exhausts shall be provided with registers.

2.7 Coordinate color selection with architect.

2.8 Confirm requirements/acceptance of flexible duct connections with acoustical engineer.

2.9 Provide cable operated dampers for outlets located in inaccessible ceilings.

2.10 Select appropriate material (aluminum, steel) for specific application requirements.

2.11 Equipment Requirements

a. Air Outlets

1. Diffusers shall be minimum 22 gauge with baked enamel finish.

2. Registers shall be minimum 20 gauge with two-way adjustment.

CONSTRUCTION REQUIREMENTS

3.1 Install all items in accordance with manufacturer's printed instructions.

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DESIGN REQUIREMENTS

3.2 Paint ductwork matte black where visible behind air outlets.

3.3 Set all air pattern controllers in accordance with construction documents.

3.4 Avoid excessive bends with flexible duct connections.

REFERENCE

4.1 The applicable CSI Specification Section is 23 37 00.