GUIDELINES FOR INSTALLING FLEXIBLE DUCT

A. CODE REFERENCE

1. The "authority having jurisdiction" should be referenced to determine what legal code or code shall apply in the use of flexible "Air Ducts" and "Air Connectors".

2. Air Ducts, identified by a rectangular shape with the numbers, have no limited installation length. Air Connectors, identified by a round shape with the numbers, shall not be installed in lengths greater than 14 feet.

B. GENERAL

1. The routing and length of flexible duct, the number of degrees of each bend and the amount of sag allowed between supports will have serious effects on system performance due to the increased resistance experienced by the duct. Use the minimum length of flexible duct to make connections. It is recommended that the length of duct be installed to allow for possible future relocations of the equipment.

2. The product is for indoor use only. Do not install product where exposure to direct sunlight can occur. Prolonged exposure to sunlight may cause degradation of the plastic material.

3. The inner core may degrade if the duct is positioned near bio-degradable treatment systems. To ensure resistance to the radiation, use the product in an environment with the HVAC system.

4. Terminal ducts shall be supported independently of the flexible duct and shall be spaced at 6 in (152 mm) intervals. This space allows for 1 cm (0.4 in) holes in the duct to be bored into the duct with the HVAC system.

5. If core material is removed, replace flex duct or these are connections.

C. INSTALLATION

1. Install duct fully extended, do not install in the compressed state or use excess lengths. This will noticeably increase friction losses.

2. Avoid bending ducts across sharp corners or inside corners of metal fixtures, pipes or conduits. Radii at center line shall not be less than one duct diameter.

3. Do not install near hot equipment (e.g., furnaces, boilers, steam pipes, etc.) that is also near metal fixtures, pipes or conduits.

D. CONNECTING, JOINING AND SPLICING FLEXIBLE DUCT

1. All connections, joints and splices shall be made in accordance with the manufacturer’s installation instructions.

2. All taps, masts, and non-metallic fasteners (plastic clamps) used for field installation of flexible ducts shall be tested and labeled to Standard UL 181B. Ultrasound C-18, and marked "UL-181B". The use of the appropriate fasteners shall be for the manufacturer’s instructions.

3. Sheet metal collars to which the flexible ducts are attached shall be of copper to the minimum thickness required by industry standards.

4. Sheet metal collars are used for joining sections of flexible duct to be a minimum of 1 in (25 mm) in width.

5. Flexible ducts may rest on ceiling joists or on supports. A maximum spacing between supports shall not exceed the maximum spacing per manufacturer’s installation instructions.

E. SUPPORTING FLEXIBLE DUCT

1. Flexible duct shall be supported at manufacturer’s recommended intervals, but no greater distance than for rigid duct. Maximum permitted sag is 1.2 in (30 mm) per foot of spacing supports.

A connection to rigid ducting or equipment shall be considered as a supported joint. Long horizontal ducts with sharp bends shall have additional supports before and after the bends approximately one duct diameter distance from the center line of the bend.

9. Vertically installed duct shall be stabilized by support straps at a maximum of 6 ft (1.8 m) intervals.

NOTE: Factory-made air ducts may not be used for vertical risers in air duct systems serving more than two stories.

F. INSTALLATION RESTRICTIONS AND USE LIMITATIONS

There are specific restrictions and limitations related to the use of flexible duct. Some are due to NFPA standards, metal codes and various state/local codes. Follow all instructions on the product label and design guidelines, unless specifically designed for that specific use. Some, but not all, are as follows:

1. Do not use for vertical risers serving more than two stories in height when conformance to NFPA 60A or 90B is required.

2. Do not use in systems with entering air temperature higher than 100°F (37°C).

3. Must be installed in accordance with conditions of location.

4. When installed in a free-air flow from outdoor assemblies, ducts shall conform with the design of the network-free-re-termination.

5. Do not use for horizontal runs, as the height of support section must be high enough to support a vertical wall of up to 1 inch or 1/4 in.

6. Do not use for wet or hot conditions where water accumulation is possible.

7. Do not use for systems designed for inhalation.

8. Do not use for ventilation systems designed for inhalation.

9. Do not use for ventilation systems designed for inhalation.

10. Do not be installed in concrete, buried below grade or in contact with the ground.