

SECTION 15815
FLEXIBLE DUCTWORK

PART GENERAL

SECTION INCLUDES

Non-Insulated Flexible Duct.

Insulated Flexible Duct.

Acoustical Insulated Flexible Duct.

RELATED SECTIONS

Section 15810 - Ducts.

Section 15822 - Sound Attenuators.

REFERENCES

ASTM C 518 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Apparatus.

ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.

NFPA 90A - Standard for Installation of Air Conditioning and Ventilating Systems; National Fire Protection Association.

NFPA 90B - Standard for Installation of Warm Air Heating and Air Conditioning Systems; National Fire Protection Association.

UL 181 - Standard for Factory Made Air Ducts and Air Connectors; Underwriters Laboratory.

SUBMITTALS

Submit under provisions of Section 01300.

Product Data: Manufacturer's product literature for each type unit.

Quality Assurance Submittals: Certified test reports from independent testing laboratory supporting compliance of products to Building Code cited in QUALITY ASSURANCE Article of this Section.

QUALITY ASSURANCE

Regulatory requirements: UL compliance; affix UL Listing Mark, with Class code, to each UL listed unit.

Code compliance: Units listed as complying with the following:
SBCC.
ICBO.
BOCA.
HUD 515-2.1(b).
City of Chicago, IL.
New York, NY.
San Francisco, CA.
Dade County, FL Building Code.

PART PRODUCTS

MANUFACTURERS

Acceptable Manufacturer: METALFLEX Division of Professional Duct Systems, Inc., 6180 Boat Rock Blvd., S.W., Atlanta, GA 30336. ASD. Tel: (888) MTL-FLEX (888-685-3539).

Requests for substitutions will be considered in accordance with provisions of Section 01600.

Substitutions: Not permitted.

Supply all products specified in this section from a single manufacturer.

NON-INSULATED FLEXIBLE AIR DUCT

Acceptable Product: METALFLEX V-100-UL.

Acceptable Product: METALFLEX V-100-S-UL.

Materials: Aluminum, formed into corrugated circular duct in eight foot length with watertight seams and continuous lock seam connection at each end.

Characteristics:

Meet requirements of UL 181.

Listed Class 0 Air Duct in accordance with NFPA 90A and NFPA 90B.

Fire Hazard Classification in accordance with ASTM E 84:

Flame Spread: Not exceeding 0.

Smoke Developed: Not exceeding 0.

Maximum velocity air handling capability: 5000 feet per minute.

Maximum operating pressure, positive and negative:

Duct diameter 3 inches to 10 inches: Plus or minus 12 inches WG.

Duct diameter 12 inches to 24 inches: Plus or minus 8 inches WG.

Operating temperature range: Minus 100 degrees F to plus 430 degrees F.

Ship duct lengths compressed to 2 feet, 8 inch length.

Accessories: Furnish each length with universal male/female connector at each end.

Accessories: Furnish each length with male/female connector one end.

INSULATED FLEXIBLE AIR DUCT

Acceptable Product: METALFLEX V-200-UL.

Acceptable Product: METALFLEX V-200-S-UL.

Acceptable Product: METALFLEX V-250-UL.

Acceptable Product: METALFLEX V-250-S-UL.

Materials:

Inner Duct Core: Aluminum, formed into corrugated circular duct in eight foot length with watertight seams and continuous lock seam connection at each end.

Insulating Layer: Non-combustible, 1-1/2 inches thickness.

Vapor Barrier: Polyethylene, gray color, having 0.10 Perm rating in accordance with ASTM E 96, Procedure A.

Vapor Barrier: Metalized film, having 0.05 Perm rating in

accordance with ASTM E 96, Procedure A.

Characteristics:

Meet requirements of UL 181.

Listed Class 1 Air Duct in accordance with NFPA 90A and NFPA 90B.

Fire Hazard Classification in accordance with ASTM E 84:

Flame Spread: Not exceeding 25.

Smoke Developed: Not exceeding 50.

Maximum velocity air handling capability: 5000 feet per minute.

Maximum operating pressure, positive and negative:

Duct diameter 4 inches to 10 inches: Plus or minus 12 inches WG.

Duct diameter 12 inches to 20 inches: Plus or minus 8 inches WG.

Operating temperature range: Minus 20 degrees F to 250 degrees F.

Thermal efficiency:

C-factor, calculated at 75 degrees F mean: 0.173.

R-Value, calculated by ADC FD72-R1 method: 5.79 average.

R-Value, calculated by ASTM C 518 method: 4.2 average.

Ship duct lengths compressed to 2 feet, 8 inch length.

Accessories: Furnish each length with universal male/female connector at each end.

Accessories: Furnish each length with male/female connector one end.

ACOUSTICAL INSULATED FLEXIBLE AIR DUCT

Acceptable Product: METALFLEX V-450-S-DB.

Materials:

Inner Duct Core: Aluminum, formed into corrugated circular duct in eight foot length with watertight seams and continuous lock seam connection at each end.

Insulating Layer: Non-combustible, 1-1/2 inches thickness.

Vapor Barrier: Metalized film, having 0.05 Perm rating in accordance with ASTM E 96, Procedure A.

Characteristics:

Maximum velocity air handling capability: 2500 feet per minute.

Maximum operating pressure, positive and negative, for duct diameter 4 inches to 20 inches: Plus or minus 2 inches WG.

Operating temperature range: Minus 20 degrees F to plus 250 degrees F.

Thermal efficiency:

C-factor, calculated at 75 degrees F mean: 0.173.

R-Value, calculated by ADC FD72-R1 method: 5.79 average.

R-Value, calculated by ASTM C 518 method: 4.2 average.

Accessories: Furnish each length with male/female connector one end.

PART EXECUTION

INSTALLATION

Install flexible ductwork in accordance with provisions of Section 15810 - Ducts.

END OF SECTION