SECTION _____ - Fiberglass Reinforced Ductwork

PART 1 - GENERAL

1.1 Work Included

A. FRP duct and fittings.

1.2 RELATED WORK

A. Section _____ - Painting

B. Section _____ - Supports and Anchors.

C. Section _____ - Testing, Adjusting, and Balancing

D. Section _____ - (Other)

1.3 REFERENCES

ASHRAE	Handbook Current Edition, Fundamentals. Chapter 33 - Duct Design
ASHRAE	Handbook Current Edition, Equipment. Chapter 1 - Duct Construction
UL 181	Factory-Made Air Ducts and Connectors.
NBS	National Bureau of Standard for PS15-69 - Hand Lay-up for Fiberglass Equipment.

1.4 DEFINITIONS

A. Duct sizes: Inside clear dimensions.

B. FRP - Fiberglass Reinforced Plastic process ducting.

1.5 FABRICATION REQUIREMENTS

A. Construct ductwork to NBS PS15-69 standards

1.6 SUBMITTALS

A. Submit shop drawings and product data under provisions of section _____.

B. Others required per engineer, contractor, and/or owner.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. KCH Services, Inc.
144 Industrial Drive
Forest City, NC 28043
Phone (828)-245-9836
Fax (828)-245-1437
Attn: Kevin Helton

2.2 MATERIALS

A. General: Fabricate using Reichhold VER9300FR resin or Hetron FR992 resin conforming to requirements for class 1 Flame Spread of less than 25 when tested according to ASTM E-84 Steiner tunnel test.

B. Inner corrosion barrier to be 100 mils of Reichhold VER9300FR resin or Hetron FR992 resin reinforced with 10 mils Nexus surface veil and 11/2 oz. chopped fiberglass of 70% resin.

C. All structural and exterior resin shall contain 3-5% of Antimony Trioxide to promote self-extinguishing properties and meet a Class 1 flame spread rating of 25 or less.

D. Exterior surfaces of all ductwork exposed to sunlight shall be finished with ultra-violet inhibitors.

E. Resin coat all cut edges.

2.3 FRP DUCTWORK

A. Butt joints - Strength, construction and thickness of the butt joint shall be at least equal to that of the duct and shall be built up in successive layer. The width of the first layer shall be three inches minimum and layers shall increase in by one inch width for every 1/16 inch in thickness over 1/8 inch.

B. Flange - Duct walls at hub of flange shall be at least 11/2 times the normal thickness of the duct and taper to normal thickness over a distance of the flange width. Face of the flange shall have no projections or depressions and shall be perpendicular to the centerline of the duct.

C. Drilling - Standard duct flanges shall be supplied drilled per PS15-69.

D. Flange Bolting - The bolt holes shall straddle the centerline unless otherwise specified. The number of bolt holes and the size shall be in accordance to the Manufacturer’s instruction. All bolts and washers shall be stainless steel. Brass nuts shall be used to prevent galling.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Preparation of duct surface - Just prior to making the joint the surface of the duct should be sanded or ground to a rough finish approximately 6” back from the joint.

B. Mixing of bonding material - Resin is mixed with catalyst just prior to bonding.

C. Duct hangers or support shall be per engineer’s requirements.

A. Construct T’s, bends, and elbows with a centerline radius of 11/2 times width or diameter of duct.