PROJECT MANUAL PRODUCT SPECIFICATIONS

SECTION - MECHANICAL SUPPORTS

PART 1 GENERAL
This specification has been compiled from generally accepted engineering principles and standards from American National Standards Institute (ANSI), Sheet Metal Air Conditioning National Association (SMACNA), Manufacturers Standardization Society (MSS), Factory Mutual (FM), Underwriters Laboratories (UL*) and other pertinent documents. The manufacturer shall be Mechanical Support Systems, Inc., 825 Llagas Rd., Bldg. A., Morgan Hill, CA 95037 +1 (408) 601-0155 with mechanical support configurations as shown in the Mechanical Support Systems, Inc. (MSS, Inc.) catalog dated February, 2014.

PART 2 DESIGN and MANUFACTURE

I. Standards
All duct/pipe/equipment hangers and supports are made of assembled prefabricated components and manufactured to comply with the latest referenced standards.

A. ANSI / ASME Code for Pressure Piping.
B. ANSI / SMACNA
   1. Duct Construction Standards - Metal and Flexible, 2006
   3. Accepted Industry Practice for Industrial Duct Construction, 2008.
C. SMACNA
D. All duct/pipe/equipment supports to surround all duct/pipe/equipment components for it’s full perimeter at all supporting points. The duct/pipes/equipment shall be void of any partial point loaded support configuration and shall maintain a full 360° duct to support contact.
E. All duct/pipe/equipment supports to be consistent in design, materials, fabrication, assembly, and installation void of all field-fabricated supports.
F. The duct/pipe/equipment support system to be flexible to accommodate multiple and/or stacked pipe/duct/equipment runs using prefabricated components and vertically adjustable.

2. Materials
Appropriate materials and protective coatings shall be used to prevent failure from environmental and galvanic corrosion. Materials that come in contact with the duct/pipe/equipment shall be compatible so that neither has deteriorating effect on each other. Duct and pipe hanger supports are to be manufactured from materials as specified by the design engineer and in accordance with industry standards as outlined;

A. ASTM A653 G90 Steel Sheet Zinc Coated (galvanized).
B. ASTM A480 Stainless Steel Plate.
C. ASTM B209-10 Aluminum Plate.
E. All supports are assembled from prefabricated components with adjustable mounts.

3. **Welding**
Comply with AWS D1.1/D1.1M procedures for shielded, metal arc welding; appearance and quality of welds. Using materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Exposed welds are finished so no roughness shows and the contours of the welded surfaces match adjacent contours.

4. **Equipment Supports**
Equipment supports are designed to accommodate size, shape and weight. These assemblies are fabricated from various materials such as mild steel, aluminum and stainless steel. A variety of designs allows for suspension, roof/floor mountings, seismic bracing and isolation requirements.

5. **Non-metallic Coatings**
Neoprene, teflon, Polyurethane and Epoxy

6. **Neoprene Abrasion Shields**
For duct/pipe/equipment that is subject to scratching.

**PART 3 LOAD CALCULATIONS**

1. **Hanger / Support Loads**
   Hangers and supports must be selected to withstand all static and dynamic loading conditions of the supported system and points of attachment to the structure.

2. **Hanger / Support Spacing**
   All hangers and supports shall comply with published guidelines and recommendations outlined in ANSI/ASME, ANSI/SMACNA and all applicable federal, state and local codes.

3. **Under-slab / Below Grade**
   If it is known at the time of design that soil conditions at the job site are suitable for the support of underground ducting and piping, or if no information is available as to the soil conditions, all ducting and piping shall be supported as specified under maximum hanger and support spacing MSS SP-69, 1991.

**PART 4 INSTALLATION**

1. **Duct / Pipe / Equipment Supports**
   All duct and pipe supports shall be assembled and installed by a qualified HVAC / Piping contractor in accordance with;
   A. ANSI / ASME Code for Pressure Piping.
   B. ANSI / SMACNA
      3. Accepted Industry Practice for Industrial Duct Construction, 2008.
   C. SMACNA
   D. Installations shall be void of all screw fasteners and any penetrations of any kind into the duct/pipe/equipment.
   E. All duct/pipe/equipment supports shall be a proprietary system of all prefabricated components. No field fabrication, cutting, or bending will be allowed.
   F. All duct/pipe/equipment supports shall have the ability to field-adjust the elevations to allow for specified slopes along length of duct/pipe/conduit runs.
   G. Installations shall comply with all applicable federal, state and local codes.

**END OF SECTION**
NOTE TO ENGINEER

Project Manual Product Specifications is intended as a guide only and it is the design engineer’s responsibility to use it in conjunction with the data found in the Mechanical Support Systems, Inc. (MSS, Inc.) catalog dated February, 2014 as offered by Mechanical Support Systems, Inc., 825 Llagas Rd., Bldg. A., Morgan Hill, CA 95037 +1 (408) 601-0155 using generally accepted and appropriate technical information, but is not intended to be solely relied upon for specific design or technical applications. Having no control over the elements of design, installation, workmanship or site conditions, Mechanical Support Systems, Inc. assumes that all design choices and installation will be made by professional persons trained and qualified in the appropriate disciplines. Mechanical Support Systems, Inc. disclaims all liability potentially arising from use or misuse of this specification.