

SECTION 07 72 00 - ROOF ACCESSORIES

SECTION 22 05 29 - HANGERS & SUPPORTS FOR PLUMBING PIPING & EQUIPMENT

SECTION 23 05 29 - HANGERS & SUPPORTS FOR HVAC PIPING & EQUIPMENT

SECTION 26 05 29 - HANGERS & SUPPORTS FOR ELECTRICAL SYSTEMS

SECTION 27 05 28 29 - HANGERS & SUPPORTS FOR COMMUNICATION SYSTEMS

**(ROOF PIPE SUPPORT SYSTEMS)
(using 17" circular base)**

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A.** The work of this contract consists of the furnishing of all labor, equipment, materials and devices required in conjunction with the installation of supports for all Mechanical, Electrical and Plumbing piping or conduit, HVAC Air Ducts and HVAC Equipment.
- B.** Manufacturer must supply a 17" circular base, injected molded polypropylene, with 227 sq. in. of surface on bottom, designed for weight disbursement.
- C.** Manufacturer must supply Vibration Isolation and Cushion system with a minimum of shock transmission to the roofing surface to allow free movement with no pipe tension or binding.

1.02 RELATED SECTIONS:

- A. Division 05 - Metals**
 - 05 45 00 Metal Support Assemblies
 - 05 45 13 Mechanical Metal Supports
 - 05 45 16 Electrical Metal Supports
 - 05 45 19 Communications Metal Supports
 - 05 50 00 Metal Fabrication
 - 05 51 00 Metal Stairs
 - 05 52 00 Metal Railings
- B. Division 07 - Thermal and Moisture Protection**
 - 07 01 70 Operation & Maintenance of Roof Specialties and Accessories
 - 07 06 70 Schedules for Roof Specialties and Accessories
 - 07 72 00 Roof Accessories
 - 07 72 13 Manufactured Curbs
 - 07 72 46 Roof Walkways
- C. Division 22 - Plumbing**
 - 22 05 29 Hangers & Supports for Plumbing Piping & Equipment
 - 22 05 48 Vibration & Seismic Controls for Plumbing Piping & Equipment
 - 22 11 19 Domestic Water Piping Specialties
 - 22 63 13 Gas Piping for Laboratory and Health Care Facilities
- D. Division 23 - HVAC**
 - 23 05 29 Hangers & Supports for HVAC Piping & Equipment
 - 23 05 48 Vibration & Seismic Controls for HVAC Piping & Equipment
 - 23 11 23 Facility Natural Gas Piping
 - 23 21 13 23 Aboveground Hydronic Piping
 - 23 22 13 Steam & Condensate Heating Piping
 - 23 23 16 Refrigerant Piping Specialties
 - 23 33 00 Air Duct Specialties
 - 23 56 16 Packaged Solar Heating Equipment
 - 23 83 16 Radiant Heating Hydronic Piping
- E. Division 26 - Electrical**
 - 26 05 29 Hangers & Supports for Electrical Systems

	26 05 36	Cable Trays for Electrical Systems
	26 05 48	Vibration & Seismic Controls for Electrical Systems
	26 33 16	Battery Racks
F.	Division 27 - Communications	
	27 05 28 29	Hangers & Supports for Communication Systems
	27 05 28 36	Cable Trays for Communication Systems
	27 05 48	Vibration & Seismic Controls for Communication Systems
	27 11 16	Communication Cabinets, Racks, Frames & Enclosures
	27 11 23	Communication Cable Management and Ladder Racks
	27 53 19	Internal Cellular, Paging & Antenna Systems
G.	Division 28 - Electronic Safety and Security	
	28 05 28 29	Hangers & Supports for Electronic Safety & Security
	28 05 28 36	Cable Trays for Electronic Safety & Security
H.	Division 33 - Utilities	
	33 81 16	Antenna Towers

1.03 REFERENCES:

- A.** American Society for Testing and Materials (ASTM):
1. A 123-89a Zinc (Hot-Dip Galvanized) Coating on Iron and Steel Products.
 2. A 153-82 Zinc Coating (Hot-Dip) Steel and Iron Hardware.
 3. A 167-92b Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Plate.
 4. A 570-92 Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality.
 5. D 256 - Test method for determining the pendulum impact resistance of notched specimens of plastics.
 6. D 638 - Test method for tensile properties of plastics.
 7. D 695-91 Test method or compressive properties of rigid plastics.
 8. D 785 - Test method for Rockwell hardness of plastics and electrical insulating materials.
 9. D 790 - Test method for flexural properties of un-reinforced and reinforced plastics and electrical insulating materials.
- B.** Manufacture's Standardization Society of the Valve and Fittings Industry, Inc. (MSS)
1. SP-58 Pipe Hangers and Supports, Materials, Design and Manufacture.
 2. SP-69 Pipe Hangers and Supports, Selection and Application.
- C.** National Roofing Contractor's Association (NRCA): NRCA Roofing and Waterproofing Manual, current edition.
- D.** Sheet Metal and Air Conditioning Contractor's Association, Inc. (SMACNA): Architectural Sheet Metal Manual, current edition.

1.04 SYSTEM DESCRIPTION:

Design Requirements: Prefabricated, engineered support system designed specifically for use on roofing without adhesive, roof penetrations, flashings or damage to roofing system.

1.05 SUBMITTALS:

- A.** Submit under provision of Section [01 33 00] [_____].
- B.** Product Data: Submit manufacturer's product data sheets, including installation instructions for each fabricated unit. Base design must be 17" circular base, injected molded polypropylene, with 227 sq. in. of surface on bottom, designed for weight displacement.
- C.** Shop Drawings: Indicate layout, support components and methods of installation.
- D.** Samples: If requested, submit sample of 17" circular base, 12 inch long framing members, each support, hanger and fastener.

1.06 QUALITY CONTROL:

The Manufacturer or his representative on request will inspect the completed installation and report in writing that the design requirements meet with the Manufacturer's approval.

1.07 DELIVERY, STORAGE AND HANDLING:

Deliver, store and handle products under provisions of Section [01 60 00] [_____].

1.08 WARRANTY:

The Product Manufacturer shall provide a one year full system material warranty necessary to cover replacement of all components of the system against defects in manufacturing. The warranty will not include Acts of God, vandalism, neglect, metal finish or improper spacing of equipment which would be a result of improper application.

PART 2 - PRODUCTS

2.01 MANUFACTURER:

The support system shall be manufactured by:

Advanced Support Products, Inc.

P.O. Box 1284

Tomball, Texas 77377

Phone: 281-357-1277

Fax: 281-357-0577

Toll Free: 800-941-5737

2.02 MATERIALS:

- A.** Base: 17" circular base, injected molded polypropylene, with 227 sq. in. of surface on bottom, designed for weight displacement.
- B.** Base Dimensions: 3"H X 17" in diameter, designed for weight displacement, with molded insert for square tubing and two threaded rod couplings molded in.
- C.** Frame: Pre-Galvanized Zinc coated 12 ga. channel (ASTM. A653).
- D.** Hangers: Clevis and/or Band type as per pipe requirements.
- E.** Accessories: Cadmium plated threaded rods, clamps, nuts, bolts and washers.
- F.** Rollers: Non-Binding Heavy Duty SBR Rubber.

2.03 RELATED PRODUCTS:

- A.** Isolation Pads are not required.
- B.** If required by roofing manufacturer, a separation sheet or pad conforming to the existing roof manufacturer's system.

2.04 PIPE SUPPORTS:

- A.** To support conduit or pipe sized up to Ø1/2" use Model # **SS1000B Pipe Support with Strut Bar**. 17" circular base with double sided strut inserted into center cavity. Use strut clamps to secure pipe.
- B.** To support conduit or pipe sized up to Ø8" without height adjustment use Model # **SS1000 Pipe Support**. 17" circular base with 12 ga. framing channel, 18"L, attached directly to base using ½" bolts. May use strut clamps as option for securing pipe.
- C.** To support conduit or pipe sized up to Ø8" when height adjustment is needed use Model # **SS1000A Adjustable Pipe Support**. 17" circular base with 12 ga. framing channel, 18"L, attached to 17" circular base using ½" threaded rods, 12"L, with washers and nuts. Height of channel can be adjusted along the length of the ½" threaded rods. Strut clamps are suggested to hold piping or conduit in place.
- D.** To support water or gas piping up to Ø8" or when a roller support is needed use Model # **SS1000R Pipe Support with Roller**. 17" circular base with SBR heavy duty rubber roller assembly attached directly to base with ½" bolts.
- E.** To support water or gas piping up to Ø8" or when a roller support with height adjustment is needed use Model # **SS1000RA Pipe Support with Adjustable Roller**. 17" circular base with SBR heavy duty rubber roller assembly attached to 17" circular base using ½" threaded rods, 12"L, with washers and nuts. Height of roller assembly can be adjusted along the length of the ½" threaded rods.
- F.** To support all type of piping in multiple runs use **Cross Brace Bridge Model SS2000/36, SS2000/48 or SS2000/60**. **Cross Brace Bridge** is made of two 17" circular bases and framing channel (36", 48" or 60"L) attached directly to the bases using ½" bolts **OR** attach to bases using ½" threaded rods, 12"L, with washers and nuts. Height of framing channel can be adjusted along

the length of the ½" threaded rod. **Cross Brace Bridge** is to be used with strut clamps or roller accessories.

- G.** To support conduit or piping up to Ø4" when height adjustment or pipe suspension is needed use Model # **SS1000H Hanging Pipe Support** for single pipe or **SS1000T Hanging Pipe Support Tee** for two pipes. **SS1000H** is one 17" circular base with 12 ga. framing channel, 18"L, attached to base using ½" threaded rods, 12"L, with one hanger attached to channel using ½" threaded rod to suspend piping at heights beginning at 3". Height of channel can be adjusted along the length of the ½" threaded rods. Height of hanger can be adjusted along the length of the ½" threaded rod. **SS1000T** is one 17" circular base with 12 ga. framing channel formed to make a "T" shape with two hangers attached to channel using ½" threaded rods on each side of the "T" to suspend piping at heights beginning at 3". Height of hanger can be adjusted along the length of the ½" threaded rods.
- H.** To support multiple pipe runs, piping up to Ø12" when height adjustment or pipe suspension is needed use Model # **SS4000P, SS6000P or SS8000P Adjustable Support Bridge**. **SS4000P Adjustable Support Bridge** is made of four (4) 17" circular bases and 12ga. framing channel formed to make one "H" shaped support with crossbar. **SS6000P Adjustable Support Bridge** is made of six (6) 17" circular bases and 12ga. framing channel formed to make two "H" shaped supports with crossbar. **SS8000P Adjustable Support Bridge** is made of eight (8) 17" circular bases and 12ga. framing channel formed to make three "H" shaped supports with crossbar. Crossbar height is adjustable and offered in 18", 24", 36", and 48" lengths. Use **Adjustable Support Bridge** with strut clamps or roller accessories or use optional hanger supports to suspend water or gas piping at various heights. Optional hanger supports attached to support frame using ½" threaded rods. Hangers offer complete height adjustments along the length of ½" threaded rods.
- I.** To support HVAC Duct use Model # **SS2000D Duct Support**. **SS2000D** is two 17" circular bases with 12 ga. framing channel formed to make an "H" shaped support. Framing channel is adjustable in both height and width.
- J.** To support light weight HVAC Equipment use Model #**SS1000EC Equipment Support Corner** or **SS1000E Equipment Support Stand**. **SS1000EC** is one 17" circular base and 12 ga. Unistrut P9000 and P9200 with 6" galvanized steel support bracket formed for a corner. **SS1000E** is one 17" circular base and 12 ga. Unistrut P9000 and P9200 with 6" galvanized steel support bracket.
- K.** To support heavier HVAC equipment use equipment platform designed by manufacturer to support the weight of the equipment and load requirements. Equipment platform shall consist of (a) 17" circular bases supporting a structural steel frame **OR** (b) galvanized steel plates, with four holes for approved anchoring per engineering data, supporting a structural steel frame.

PART 3 - EXECUTION Section 01 70 00

3.01 PREPARATION:

- A.** Verify that roof surface is smooth and clean to extent needed to receive materials.
- B.** Review approved final drawings to determine the locations of supports.
- C.** Clean surfaces to receive supports removing any loose gravel and any foreign matter.
- D.** Supports can be placed on completed gravel roof systems. Sweep any loose gravel before setting support 17" circular bases.

3.02 INSTALLATION:

- A.** Install support systems in accordance with manufacturer's instructions and approved shop drawings.
- B.** Accurately locate and align pre-fabricated pipe supports in locations specified as per approved shop drawings or as required herein and by site conditions to limit pipe and/or conduit deflection to L/240, not to exceed 10' (3m) on center. No Isolation pads are required under the 17" circular bases.
- C.** Should the roofing manufacturer require a separation sheet between the roof and the support system, place a separation sheet or protective pad conforming to the existing roof manufacturer's system under 17" circular bases. Do not adhere to the roof system or 17" circular bases.
- D.** If required, insert frame structures into 17" circular bases as indicated by manufacturer's instructions.

- E** Adjust height of each strut or channel and hanger or roller to its required height and tighten with nut, but do not over-tighten. Check each support for equal weight disbursement. Correct if necessary.

- E** Remove any unused materials and packaging from job site.

END OF SECTION