

SECTION 232316  
HVACR REFRIGERANT PIPING PROTECTION AND DUCTING  
COMMERCIAL AND INDUSTRIAL REFRIGERANT PIPING PROTECTION

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Non-metallic refrigerant piping protection for Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) equipment.
- B. Metallic refrigerant piping protection for Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) equipment.

1.2 RELATED SECTIONS

- A. Section 230000 – Heating Ventilation and Air Conditioning (HVAC).
- B. Section 230529 – Hangers and supports for HVAC Piping and Equipment.
- C. Section 230719 – HVAC Piping Insulation.
- D. Section 232300 – Refrigerant Piping.

1.3 REFERENCES

- A. International Code Council (ICC).
  - 1. International Mechanical Code 2012, Section 1107.3 Piping Enclosures.
  - 2. International Energy Efficiency Code 2012, Section C403.2.8.1 Protection of Piping Insulation.
- B. ASHRAE Standard 90.
  - 1. Table 6.8.3B Minimum Pipe Insulation Thickness.

1.4 SYSTEM DESCRIPTION

- A. Galvanized steel ducting for protection of HVAC and Refrigeration refrigerant piping systems. Constructed of a high grade corrosion resistant hot dipped galvanized steel sheet precision coated in two layers, the first consisting of Zinc with Magnesium and Aluminum and a second layer of Zinc and Magnesium. Available in heights of 5-1/8" & 9 7/8" and widths of 11-7/8", 17-3/4", 23-5/8", and 35-3/8" and a length of 78". Ducting can be provided with non-slip surface to allow for use as walkway (RDWK Series).
- B. PVC ducting for protection of HVAC and Refrigeration refrigerant piping systems. Constructed of a high grade extruded fire retardant and UV protected Polyvinyl Chloride plastic. Ducting is available in 3 sizes 3-1/2", 4-3/4" & 5 1/2" diameters and lengths of 39", 59" & 78 3/4".

## 1.5 SUBMITTALS

- A. Submit under provisions of Section 013300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Refrigerant piping sizing and loading.
  - 2. Assembly instructions.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing HVAC and Refrigeration aftermarket installation equipment for HVAC-R, VRF/VRV, ductless mini split, and pipe support systems, with a minimum of two years of documented experience.
- B. Pre-Installation Meeting: After approval of submittals, prior to installation, conduct a meeting at project site attended by Architect, Contractor, Authority Having Jurisdiction, and equipment installer.
  - 1. Meeting is to describe in detail the installation process and to establish agreement, coordination, and responsibilities for each party.
  - 2. Prepare detailed meeting report and distribute copies to the Architect and all attendees.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver all materials to project site in manufacturer's original packaging, marked with manufacturer's name, product model names and catalog numbers, identification numbers, and other related information.
- B. Store materials under cover until needed for installation.

## 1.8 PROJECT CONDITIONS

- A. Do not install products in locations where environmental conditions fall outside manufacturer's recommended limits.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: RD and PD ducting from Marketair Inc, 402 Merrywood Drive, Edison NJ 08817; Tel: 732-985-8226; Fax: 732-985-2134; Email: [gerry@marketair.com](mailto:gerry@marketair.com) ; Web: [www.marketair.com](http://www.marketair.com)
- B. Substitutions: Not permitted.

### 2.2 REFRIGERANT PIPING AND DUCTING

- A. Provide refrigeration piping protection systems and as engineered and distributed by Marketair Inc. for ducting of HVAC, refrigeration, VRF/VRV and ductless mini split, refrigerant lines and piping.
- B. Product: RD series heavy duty galvanized steel HVAC-R refrigerant piping ducting, by Marketair Inc.
  - 1. Description: Zinc Aluminum and Magnesium hot dipped galvanized steel refrigerant lineset protective enclosures, coated in 2 layers of 91% Zinc, 6%

- Aluminum and 3% Magnesium.
- 2. Material: Steel.
- 3. Finish: Hot Dip Galvanized 2 layers of Zinc, Aluminum and Magnesium.
  - a. RD300, 11-7/8" width, 5-1/8" or 9 7/8" height.
  - b. RD450, 17-3/4" width, 5-1/8" or 9 7/8" height.
  - c. RD600, 23-5/8" width, 5-1/8" or 9 7/8" height.
  - d. RD900, 35-3/8" width, 5-1/8" or 9 7/8" height.
- C. Product: PD series heavy duty PVC HVAC-R refrigerant piping ducting, by Marketair Inc.
  - 1. Description: UV, weather and fire resistant heavy duty extrusion molded PVC.
  - 2. Material: Polyvinyl Chloride.
  - 3. Finish: Ivory.
    - a. PD-90, 3-1/2" diameter, 38" and 58" length.
    - b. PD-120, 4-3/4" diameter, 38" and 58" length.
    - c. PD-140, 6 1/2" diameter, 78" length.

### PART 3 EXECUTION

#### 3.1 EXAMINATION

- A. Verify that refrigerant piping is insulated and free from any leaks. Confirm work surfaces and conditions are appropriate for installation of ducting system.

#### 3.2 PREPARATION

- A. Clean surfaces of work areas to receive ducting and supports.
  - 1. Remove debris, dirt, dust, oils, and other foreign materials.
- B. Ensure not to damage refrigerant lines or insulation material when moving, handling and assembling ducting system and support system components.

#### 3.3 INSTALLATION

- A. VRF, Ductless Mini Split and HVAC Equipment piping:
  - 1. Follow all manufacturer's written instructions and engineering design parameters.
  - 2. The use of wood for supporting refrigerant piping is not permitted.
  - 3. Follow all code requirements for insulation and refrigerant piping protection.
  - 4. Do not alter or change any ducting or support system components.
  - 5. Provide complete and adequate support of all installations.
- B. Refrigeration piping and Systems:
  - 1. Follow all manufacturer's written instructions and engineering design parameters.
  - 2. The use of wood for supporting refrigerant piping is not permitted.
  - 3. Follow all code requirements for insulation and refrigerant piping protection.
  - 4. Do not alter or change any ducting or support system components.
  - 5. Provide complete and adequate support of all installations.

#### 3.4 FIELD QUALITY CONTROL

- A. A factory-trained representative of the manufacturer shall visit the site while the work is in progress to assure that the installation conforms to the design requirements and the manufacturer's installation requirements.

#### 3.5 CLEANING AND PROTECTION

- A. Remove all packaging, and other installation materials from the project site.
- B. Protect work as necessary to guarantee undamaged condition at the time of substantial completion.

END OF SECTION