

SECTION 23 07 00

HVAC INSULATIONHVAC INSULATION

This document is intended to note the Owners Design Requirements (ODR) for the titled specification section. Design professional to review and integrate ODR into the project's technical specifications. This ODR document should not be viewed as a standalone technical specification.

PART 1 - GENERAL REQUIREMENTS

N/A

PART 2 - PRODUCTS AND MATERIALS

- ◆ Piping insulation materials
 - Flexible Elastomeric: Closed-cell, sponge- or expanded-rubber materials. Type I for tubular materials and Type II for sheet materials.
 - Mineral-Fiber, Preformed Pipe Insulation.
 - Polyisocyanurate: Unfaced, preformed, rigid cellular polyisocyanurate material intended for use as thermal insulation
 - Jackets for Piping Insulation: Type I.
 - PVC: One-piece, pre-molded PVC cover.
- ◆ Ductwork insulation materials
 - Rigid Fiberglass Ductwork Insulation: Types IA or IB, with density of 3.0 pounds per cubic foot.
 - Flexible Fiberglass Ductwork Insulation: Type II, with density of 1.5 pounds per cubic foot.

PART 3 - EXECUTION

- ◆ Piping system insulation
 - Cold Piping (40 degrees F (4.4 degrees C) to ambient):
 - Application Requirements: Insulate the following cold HVAC piping systems:
 - HVAC chilled water supply and return piping.
 - HVAC make-up water piping.
 - Condensate drain piping.
 - Condenser water supply and return piping when used for free cooling.
 - Insulate each piping system specified above with one of the following types and thicknesses of insulation:
 - Flexible Elastomeric
 - Warm Temperature Piping (100 degrees to 140 degrees F (38 to 94 degrees C)):
 - Application Requirements: Insulate the following warm HVAC piping systems:
 - HVAC hot water supply and return piping.
 - Refrigerant liquid lines between the condensing unit and evaporator coil. (1/2" minimum)
 - Insulate each piping system specified above with one of the following types of insulation.
 - Fiberglass
 - Flexible Elastomeric
 - Polyisocyanurate
- ◆ Ductwork system insulation
 - Application Requirements:
 - Insulate the following duct systems:
 - Outdoor Air.
 - Supply Air.

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- Insulate neck and bells of supply diffusers.
- Return Air:
 - Omit insulation on return ductwork located in return air ceiling plenums except all return air ductwork within 10 feet of exterior roof or wall penetrations.
- Exhaust and Relief Air:
 - Within 10 feet of exterior discharge outlet.
 - Downstream of heat recovery device (wheel, plate, heat pipe, etc.) to exterior discharge outlet.
- Insulate each ductwork system specified above to meet energy code:
 - Rigid Fiberglass
 - Flexible Fiberglass
- Exterior Insulation
 - For supply and return ductwork located exterior to the building, insulation shall be minimum R-8.0. Provide exterior insulation consisting of 2 inch thickness of flexible elastomeric insulation with 3 lb density rigid fiberglass and jacket consisting of 15.5 mils thick Ventureclad Plus UV resistant cladding.
 - Install exterior ductwork with sufficient slope to ensure that water cannot pond anywhere on the duct. Drainage must be achieved by sloping ductwork – not by varying the insulation thickness. Locate longitudinal seams of outer shell (aluminum, flexible elastomeric, or cladding as applicable) at bottom of duct. Install cladding in strict conformance with cladding manufacturer's instructions.
- ♦ Existing insulation repair
 - Repair existing mechanical insulation that is damaged during this construction period. Use insulation of same thickness as existing insulation, install new jacket lapping and sealed over existing.
- ♦ Protection and replacement
 - Provide all required protection for insulation (installed and uninstalled) throughout the duration of construction to avoid exposure to moisture, deterioration, and physical damage.
 - Replace damaged insulation which cannot be repaired satisfactorily, including insulation with vapor barrier damage and insulation that has been exposed to moisture during shipping, storage, or installation.
 - Dry surfaces prior to installation of new insulation that replaces the damaged or wet insulation.

END OF SECTION