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- B. Provide factory applied, foil-scrim-kraft vapor barrier. ASTM C921
- C. Vapor Barrier Tape: Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure sensitive adhesive.

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5. Insulate entire system including fittings, joints, flanges, etc.
- D. Rigid Fiber Glass Insulation
1. Install insulation around ductwork with facing to the outside with joints firmly butted.
 2. Secure insulation with mechanical fasteners and speed clips located a maximum of 3" from each edge and spaced on a maximum of 12" centers. The protruding ends of the fasteners shall be cut off flush after the speed clips are installed and shall be sealed with vapor barrier tape and mastic.
 3. Overlap vapor barriers a minimum of 2" and seal with vapor barrier tape and mastic.
 - 4.

1. For non-conditioned outdoor air, insulation is usually NOT required. Engineer may require exterior duct insulation to eliminate sweating inside the non-conditioned outdoor air duct.
 2. For conditioned outdoor air, provide insulation the same as for supply air ductwork. Conditioned outdoor air is defined as outdoor air that has been dehumidified (cooled) or dehumidified (cooled) and reheated.
- E. Ceiling Diffusers: For lay-in type border, insulate the back of the ceiling diffuser with 2" thick, 1.0 lb/cu ft, flexible fiberglass insulation. Seal the insulation to the perimeter of the extended panel (NOT to T-bar grid) with vapor barrier tape. Seal the insulation to the flexible duct with vapor barrier mastic.
 - F. Stand-offs for Volume Dampers and Brackets for Motorized Dampers: For insulated ducts, insulate the space between the duct and stand-off or bracket with 2" thick, 1.0 lb/cu ft, non-faced, flexible fiber glass insulation. Insulate up to the standoff or bracket, and seal with vapor barrier mastic.
 - G. Fire Dampers: Insulate the fire damper sleeve with the same type and thickness of insulation as the adjacent ductwork.
 - H. To prevent condensation on the partition, insulate a 12" wide area around the fire damper sleeve on both sides of the partition. Insulate the partition with 1.5" thick, 6.0-lb/cu ft, rigid fiberglass insulation. Seal the partition insulation to the partition with vapor barrier tape. Seal the partition insulation to the ductwork insulation with vapor barrier tape and mastic. Partition insulation shall be above the ceiling.
 - I. Flexible Connections: Insulate with 2" thick, 1.0 lb/cu ft, flexible fiberglass insulation. Seal with vapor barrier tape and mastic.

3.4 SCHEDULE (EXTERIOR APPLICATIONS)

- A. Supply Air Ductwork: Provide 2" thick, cellular glass or fiberglass insulation with vapor barrier mastic, reinforcing membrane and aluminum jacket.
- B. Return Air Ductwork: Provide insulation the same as supply air ductwork.

END OF SECTION