

SECTION 07 27 00
AIR INFILTRATION BARRIER

1 PART 1 GENERAL

1.1 SUMMARY:

- A. Includes but not limited to:
 - 1. Furnish and install over exterior of wall sheathing at all locations regardless of whether or not indicated on drawings to protect exterior sheathing and interior walls.

1.2 REFERENCES:

- A. AATCC – 127
- B. TAPPI T – 460 (sec/100cc)
- C. ASTM E 96 (g/m² –24 hr.)

1.3 SUBMITTALS:

- A. General: Submit each item in this Article according to the conditions of the Contract and Division I Specifications Sections.
- B. Product Data: Submit product specifications, technical data and installation instructions of manufacturer equaling or exceeding those specified.

2 PART 2 PRODUCTS

2.1 AIR INFILTRATION BARRIER/SECONDARY WEATHER RESISTIVE MEMBRANE:

- A. Spun-bonded olefin, Non-woven, Non-perforated.
- B. Performance Requirements
 - 1. Water Penetration Resistance: AATCC – 127: 280 cm.
 - 2. Air Infiltration: TAPPI T – 460 (sec/100cc): >1500 seconds.
 - 3. Water Vapor Transmission: ASTM E 96 Method B(g/m² – 24 hr.): 28 perms.
 - 4. Basis Weight: TAPPIT- 410: 2.7 oz/yd².
 - 5. Breaking Strength: ASTM D-882, Method A (lbs/in): 38/35.
 - 6. Tear Resistance: ASTM D-117 (lbs): 12/10.
 - 7. Surface Burning Characteristics: ASTM E-84-97a, Flame Spread: Class A.
- C. Membrane shall be free from holes and breaks other than those created by fasteners and construction system due to attachment
- D. Approved Manufacturer:

1. DuPont Tyvek® Commercial Wrap® by DuPont Company, Wilmington, Delaware
2. No Alternates or Substitutions

2.2 SEALING TAPE/FASTENERS

A. Approved Tape Manufacturers:

1. DuPont Tyvek Tape, by DuPont Company, Wilmington Delaware

B. Fasteners for Wood Framed construction:

1. DuPont Tyvek Wrap Cap Nails.

C. Fasteners for Steel Framed Construction:

1. DuPont Tyvek Wrap Cap Screws.

D. Recommended Fastening to Masonry:

1. Polyurethane or elastomeric adhesives

2.3. FLASHINGS

A. Elastomeric Flexible Flashing: DuPont FlexWrap.

B. Elastomeric Straight Flashing: DuPont StraightFlash.

3 PART 3 EXECUTION

3.1 AIR INFILTRATION BARRIER

- A. Install Air Infiltration Barrier over exterior side of exterior wall sheathing in accordance with manufacturer's instructions.
- B. Install Air Infiltration Barrier after sheathing is installed and before windows and doors are installed. Install lower level barrier prior to upper layers to ensure proper shingling of layers.
- C. Overlap Air Infiltration Barrier at corners of building by a minimum of 12 inches.
- D. Overlap Air Infiltration Barrier vertical seams by a minimum of 6 inches.
- E. Ensure barrier is plumb and level with foundation, and unroll extending Air Infiltration Barrier over window and door openings.
- F. Attach Air Infiltration Barrier to wood, insulated sheathing board or exterior gypsum with plastic cap nails every 12" to 18" on vertical stud line with wood stud framing, and screws with washers to metal stud framing.
- G. Prepare window and door rough openings as follows:
 1. Prepare each window rough opening by cutting a modified "I" pattern in the Air Infiltration Barrier. This is done as follows:

- a. Horizontally cut Air Infiltration along bottom of header.
 - b. Vertically cut Air Infiltration Barrier down the center of window openings from the top of the window opening down to 2/3 of the way to the bottom of the window openings.
 - c. Diagonally cut Air Infiltration Barrier from the bottom of the vertical cut to the left and right corners of opening.
 - d. Fold side and bottom flaps into window opening and fasten every 6 inches. Trim off excess.
2. Prepare each rough door opening by cutting a standard "I" pattern in the Air Infiltration Barrier. This is done as follows:
- a. Horizontally cut Air Infiltration Barrier along bottom of door frame header and along top of sill.
 - b. Vertically cut Air Infiltration Barrier down the center of door openings from the top of the door opening (header) down to the bottom of the door opening (sill).
 - c. Fold side flaps inside around door openings and fasten every 6 inches. Trim off excess.
- H. Tape all horizontal and vertical seam of Air Infiltration Barrier.
- I. Tape a patch over all tears and cuts in Air Infiltration Barrier.
- J. Install 2"x2" square of DuPont StraightFlash beneath all masonry anchors and siding fasteners penetrating Air Infiltration Barrier and sheathing.
- K. Install 12" wide strip of flexible flashing (6" wide on each face) at all exterior and interior corners over Air Infiltration Barrier.

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