

## Master Spec Guideline

### Section 072800 – Water-Resistive Barriers

SPEC NOTE: Following are suggested specification paragraphs to be used when specifying a building wrap membrane as a water-resistive barrier under Section 072800. Insert the required paragraphs into the Section under the noted Articles, and make any required selections, such as roll size.

DISCLAIMER: The manufacturer has reviewed the product information contained in this short form specification and is responsible for its accuracy. The information is organized and presented to assist the specification writer working on a construction project to select the appropriate products and to save time in writing the project specification Section and is not intended to replace the manufacturers installation instructions.

## Part 1 – General

### 1.1 Introduction

- A. Includes but not limited to:
  - 1. Furnish and install mechanically-fastened, thin sheet building wraps used as air barriers and water-resistive barriers on exterior side of exterior wall assemblies as described in Contract Documents.

### 1.2 References

- A. ASTM E-96 “Standard Test Method for Water Transmission of Materials”
- B. AATCC-127 “Hydrostatic Head Test”
- C. ASTM D-4533 “Standard Test Method for Trapezoidal Tearing Strength of Geotextiles”
- D. ASTM E-2178 “Standard Test Method for Air Permeance of Building Materials”
- E. TAPPI T-460 “Air Resistance of Paper”

### 1.3 Submittals

- A. Submit in accordance with Division 1 requirements
- B. Product Data: Submit manufacturer’s product data, building code compliance reports or test reports and the manufacturer’s printed installation guidelines.
- C. Samples: Submit clearly labelled samples, 3 by 4 in. minimum size of each material specified.
- D. Quality Assurance – Installer Qualifications:
  - 1. Installer shall have experience with installation of air barriers and water-resistive barrier material; and
  - 2. Installation shall be in accordance with the air barrier and water-resistive barrier building material manufacturer’s installation guidelines.
- E. Shop Drawing of Wall Assembly Mock-Up: Submit shop drawings of proposed wall assembly mock-ups showing the location of the air barrier and water-resistive barrier building wrap in the wall assembly and location of all window and door openings, penetrations and terminations involving structures attached to the exterior wall.

### 1.4 Quality Assurance – Air Barrier/Water-Resistive Barrier Building Wrap

A. Manufacturer: Obtain primary air barrier/water-resistive barrier building wrap from a single manufacturer regularly engaged in manufacturing air barrier and water-resistive barrier building wrap products.

B. Accredited Laboratory Testing for Air Barrier Building Wrap: Laboratory accredited by the International Accreditation Service Inc. (IAS) or the Standards Council of Canada (SCC).

C. Pre-Construction Meeting: At least 2 weeks prior to the installation of the air barrier/water-resistive barrier building wrap, hold a pre-installation meeting. Attendees shall include representatives of related trades. Agenda shall include a review of wall assembly mock-up drawings, sequence of construction, coordination with substrate preparation, materials approved for use, compatibility of materials, coordination with installation of adjacent and covering materials, and details of construction.

D. Wall Assembly Mock-Up: Build a mock-up representative of the primary exterior wall assemblies using approved air barrier/water-resistive barrier building wrap, fasteners, flashing tape and related accessories as per the air barrier/water-resistive barrier building wrap manufacturer's installation guidelines. Mock-up shall be approximately 8 feet long by 8 feet high and include all components of the exterior wall assembly.

### **1.5 Delivery, Storage and Handling**

A. Deliver air barrier/water-resistive barrier building wrap and components in the manufacturer's original, unopened packaging labelled with the manufacturer's information and product name.

B. Store the air barrier/water-resistive barrier building wrap in the original, unopened packaging or in a clean, dry, protected location stored away from direct sunlight.

### **1.6 Scheduling**

A. Review requirements for sequencing of installation of air barrier/water-resistive barrier building wrap with the installation of windows, doors, louvers and flashing materials to ensure a weather-tight barrier assembly.

B. Schedule installation of exterior cladding within four months of the air barrier/water-resistive barrier building wrap installation.

### **1.7 Warranty**

A. Material Warranty: Provide manufacturer's air barrier/water-resistive barrier building wrap warranty.

## **Part 2 – Products**

### **2.1 Manufacturer**

A. GAP Roofing Inc./Intertape Polymer Group, 50 Abbey Avenue, Truro, NS, Canada, B2N 6W4, 1-800-565-2000; ESR-2235

### **2.2 Air Barrier and Water-Resistive Building Wrap**

A. WaterGuard™ Building Wrap

B. Performance Characteristics:

1. Air Penetration: < 0.02 L/S.M<sup>2</sup> @ 75 Pa

2. Water Vapor Transmission ≥ 5 Perms & ≤ 20 Perms as tested by ASTM E-96, Method B

3. Water Penetration Resistance of >400 cm on hydrostatic head when tested in accordance with AATCC-127
4. Air Infiltration Resistance at >1800 seconds/100 cc when tested in accordance with TAPPI T-460
5. Surface Burning Characteristics: Class A when tested in accordance with ASTM E-84
6. Mechanically fastened, membrane air barrier shall meet requirements of ICC-ES AC308, "Acceptance Criteria for Water-Resistive Barriers", CCMC Technical Guide 07102, "Sheathing Membrane, Breather-Type, CCMC Technical Guide 07273, "Air Barrier Materials".

### **2.3 Auxiliary Material**

A. Specify auxiliary materials as shown below or other alternative materials approved by the air barrier/water-resistive barrier building wrap manufacturer.

1. NovaFlash™ SA Ultra Self-Adhered Flashing

## **Part 3 – Execution**

### **3.1 Examination**

A. Examine substrates, areas and conditions under which the air barrier/water-resistive barrier will be installed, with installer present, for compliance with manufacturer's requirements.

### **3.2 Installation**

1. Building wrap should be installed after the wall framing is completed and before the windows and doors are installed.
2. Building wrap should be installed on the outside of the insulation cavity, preferably over approved exterior sheathing board or insulation with the printed side installed so that it faces out.
3. Start at an outside corner, ensuring the roll remains vertical, unroll the material across the face of the sheathing making sure the roll remains plumb and that the bottom edges of the building wrap extend over the foundation by 2 inches (5 cm).
4. The application should start at an outside corner extending around the starting point corner by at least 6 inches (15 cm). Attach building wrap so that it is tight and flat.
5. Fasten building wrap with either large head nails with sufficient length to penetrate the stud framing, or wide crown, 1 inch long (2.5 cm) staples, or 1 inch diameter (2.5 cm) plastic washer head nails. For installation over a foam plastic insulation board, the carriers shall be fastened with 3/8 inch (0.95 cm) diameter head nails long enough to penetrate the framing member without crushing the foam board. Fasteners should be spaced every 6 inches (15 cm) at the perimeter of the wall and around the door and window openings and between 12 inches (30 cm) to 18 inches (45 cm) along the vertical framing members. Material higher on the wall should overlap materials lower on the wall. Horizontal overlaps should be at least 6 inches (15 cm), and vertical flaps at least 4 inches (10 cm).
6. When installing around window or door openings, use an X-cut from corner to corner, pulling the flaps in, folding excess material (or trimming excess material), fastening securely through all layers to a framing membrane. Intertape® brand Contractor Grade Sheathing Tape (or equivalent) may be used to secure building wrap to window flanges, door jambs, sill plate foundation, and all vertical/horizontal seams.

7. When used over wood-based sheathing in exterior plaster applications, 2 layers of product shall be applied over sheathing in accordance with Section 2510.6 of the IBC or Section 2506.4 of the UBC, as applicable, except for cementitious coatings or exterior insulation and finishing systems, application shall be in accordance with the evaluation report on the exterior coating.

8. When installed In Canada, building wrap should be installed in accordance to Article 9.27.3.3 of the NBC 2010 and manufacturer's current instructions. GAP WaterGuard "Air Barrier" should be installed with a minimum 1/2 inch (1 cm) air space between the sheathing membrane and cladding, unless otherwise specified. A concealed airspace exceeding 1 inch (2.5 cm) in width must contain proper fire stopping in accordance with Subsection 9.10.16 of the NBC 2010. Although GAP WaterGuard "Air Barrier" is stabilized with respect to degradation from sunlight, it should not be left exposed to sunlight indefinitely. IPG® recommends that GAP WaterGuard "Air Barrier" should be covered with cladding and the wall cavity closed within 120 days of installation (60 days in Canada).

### **3.3 Field Quality Control**

A. Allow access to work areas for inspection and testing by manufacturer's designate, if required for warranty purposes. Daily inspection and testing may be required. Do not cover work until testing and inspection is accepted.

### **3.4 Protecting and Cleaning**

A. Protect installed building wrap from damage during installation, and the remainder of the construction period, according to the manufacturer's written instructions.