

**EFFECTIVE JUNE 21, 2017 AND SUPERSEDES ALL PREVIOUS VERSIONS.**

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**SPEC NOTE: Henry® Blueskin® VP160 Self-Adhered Water Resistive Air Barrier.** This specification is ideally suited for cavity wall construction requiring a water resistive barrier which allows for the passage of water vapor. Although prepared in CSI three (3) part format, this specification should be adapted to suit the requirements of the individual project and be included as a separate Section under Division 07 - Thermal and Moisture Protection.

**SPEC NOTE:** This document is a reference for the recommended installation procedures of the products/assembly described. Although this specification Section follows the recommendations of the Construction Specifications Institute (CSI), Manual of Practice including MasterFormat, SectionFormat, and PageFormat, it is the discretion of the project specification author to use the information within as a whole, or in part, to set a minimum standard of performance for specified products/assembly on a project specific basis. Update “[project specific]” notes and coordinate as required.

**SPEC NOTE:** This document includes Henry® notes to assist the architect/specification writer. A Henry® “SPEC NOTE” will always immediately precede the text to which it is referring. This Section serves as a guideline only; modify to meet specific project requirements.

**SPEC NOTE:** Delete “SPEC NOTE” Sections in the final copy of the specification.

**SPEC NOTE:** Wall systems requiring compliance with NFPA 285: contact the local Henry® sales representative or Technical Services at (800) 486-1278.

**SPEC NOTE:** Wall systems anticipating prefabrication and installation of air barrier as a panelized design: contact the local Henry® sales representative or Henry® Technical Services at (800) 486-1278.

**SPEC NOTE:** Henry® requires special consideration detailing where Henry® Blueskin® VP160 Self-Adhered Water Resistive Air Barrier is subject to extreme weather conditions and bulk water within a completed wall assembly. Contact the local Henry® sales representative or Henry® Technical Services at (800) 486-1278 to coordinate Section “3.03.G Special Considerations”.

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**SECTION 07 27 00  
AIR BARRIERS**

**PART 1 - GENERAL**

**1.01. GENERAL REQUIREMENTS**

- A. The General Conditions, Supplementary Conditions, Instructions to Bidders, and Division 01-General Requirements shall be read in conjunction with and govern this Section.
- B. Read this Specification as a whole by all parties concerned. Each Section may contain more or less than the complete Work of any trade. The Contractor is solely responsible to make clear to the installing Subcontractor the extent of their Work.

**1.02. SUMMARY**

- A. This Section includes requirements for supplying labor, materials, tools, and equipment to complete the Work as shown on the Drawings Architectural Division as specified herein including, but not limited to, the following:
  - 1. Adhesive/Primer
  - 2. Self-Adhered Water Resistive Air Barrier
  - 3. Air Barrier/Thru-wall Flashing
  - 4. Sealant

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SPEC NOTE: Coordination of terminations, transitions, and penetrations are pertinent to ensure chemical compatibility and adhesion of adjacent products. Edit the following related Sections as required to ensure a continuous air and watertight building envelope. Contact manufacturer(s) where products transition from one assembly to another to confirm minimum installation requirements for warranty issuance.  
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1.03. RELATED REQUIREMENTS

- A. DIVISION 03 – Section 03 40 00 – Precast Concrete
- B. DIVISION 04 – Section 04 20 00 – Unit Masonry
- C. DIVISION 05 – Section 05 40 00 – Cold-Formed Metal Framing
- D. DIVISION 05 – Section 05 50 00 – Metal Fabrications
- E. DIVISION 06 – Section 06 16 00 – Sheathing

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SPEC NOTE: 2012 IECC requires a continuous air barrier. Contact product manufacturers and coordinate dampproofing/waterproofing with this Section to ensure compatibility and/or single source warranty.  
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- F. DIVISION 07 – Section 07 10 00 – Dampproofing and Waterproofing

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SPEC NOTE: Inclusion of plastic thermal insulation may require NFPA 285 compliance. Contact product manufacturers to confirm passing assemblies.  
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- G. DIVISION 07 – Section 07 21 00 – Thermal Insulation

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SPEC NOTE: Climate zones 4 and greater require a vapor retarder in accordance with the International Building Code (IBC) and the National Building Code of Canada (NBC). Coordinate and/or delete related requirement below as needed.  
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- H. DIVISION 07 – Section 07 26 00 – Vapor Retarders
- I. DIVISION 07 – Section 07 40 00 – Roofing and Siding Panels

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SPEC NOTE: 2012 IECC requires a continuous air barrier on building envelope systems. Contact product manufacturers and coordinate membrane roofing with this Section to ensure compatibility and/or single source warranty.  
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- J. DIVISION 07 – Section 07 50 00 – Membrane Roofing
- K. DIVISION 07 – Section 07 62 00 – Sheet Metal Flashing and Trim
- L. DIVISION 07 – Section 07 65 00 – Flexible Flashing

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SPEC NOTE: Confirm compatibility of sealant and air barrier assembly and/or single source warranty:  
1. Contact product manufacturers and coordinate this Section with joint sealant Section 07 92 00.  
2. Contact product manufacturers and coordinate this Section glazing sealant Section 08 40 00.  
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- M. DIVISION 07 – Section 07 92 00 – Joint Sealants
- N. DIVISION 08 – Section 08 11 00 – Metal Doors and Frames
- O. DIVISION 08 – Section 08 44 00 – Curtain Wall and Glazed Assemblies
- P. DIVISION 08 – Section 08 50 00 – Windows

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SPEC NOTE: Projects not referencing LEED delete Sections “1.03. Q”, “1.04.C.7”, “1.05.D”, and “1.07.B.2.b” as stated below.  
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- Q. DIVISION [project specific] - Section [LEED Requirements project specific] – [project specific].

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SPEC NOTE: If wall assembly is not required to comply with NFPA 285 delete “1.04.C.8”, “1.05.C”, and “1.07.B.3” of this Section:  
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1.04. ALTERNATES

- A. Submit requests for alternates in accordance with Section [project specific].
- B. Materials must meet the following criteria:
  - 1. Air leakage:
    - a. ASTM E2357: Pass
    - b. CAN/ULC-S742-11: Classification A1
    - c. CAN/ULC S741-08: Pass
  - 2. Water resistance:
    - a. AATCC TM127: Pass
    - b. ASTM E331: Pass
  - 3. Nail Sealability:
    - a. AAMA 711-13, ASTM D1970: Pass
- C. Alternate submission format to include:
  - 1. Evidence that alternate materials meet or exceed performance characteristics of product requirements and documentation from an approved independent testing laboratory certifying that the performance of the system including auxiliary components exceed the requirements of the local building code.
  - 2. References clearly indicating that the Air Barrier Manufacturer has successfully completed projects of similar scope and nature on an annual basis for a minimum of ten (10) years.
  - 3. Air Barrier Manufacturer’s guide specification.
  - 4. Air Barrier Manufacturer’s complete set of technical data sheets for assembly.
  - 5. Air Barrier Manufacturer’s complete set of details for assembly.
  - 6. Product certification confirming assembly components are supplied and warranted by a single source Air Barrier Manufacturer.
  - 7. LEED HPD declaration.
  - 8. Air Barrier Manufacturer statement that anticipated wall assembly compliance with NFPA 285.
  - 9. Sample warranty as specified.

- D. Submit requests for alternates to this specification a minimum of ten (10) working days prior to bid date. Include a list of twenty-five (25) projects executed over the past five (5) years.
- E. Issued addendums confirm acceptable alternates. Do not submit substitute materials after tender closing.

#### 1.05. REFERENCES

- A. American Architectural Manufacturers Association (AAMA):
  - 1. AAMA 711-13 - Voluntary Specification for Self-Adhering Flashing Used for Installation of Exterior Wall Fenestration Products
  - 2. AAMA 2400-02 - Standard Practice for Installation of Windows with a Mounting Flange in Stud Frame Construction
- B. American Society for Testing and Materials (ASTM):
  - 1. ASTM D882 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting
  - 2. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
  - 3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials
  - 4. ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials
  - 5. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen
  - 6. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference
  - 7. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
  - 8. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials
  - 9. ASTM E2357 - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
- C. National Fire and Protection Agency (NFPA):
  - 1. NFPA 285 - Standard Fire Test Method for Evaluation Of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
- D. US Green Building Council (USGBC), Leadership in Energy and Environmental Design (LEED)

#### 1.06. ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation meetings:
  - 1. When required, and with prior notice, an Air Barrier Manufacturer representative will meet with the necessary parties at the jobsite to review and discuss project conditions as it relates to the integrity of the assembly.

#### 1.07. SUBMITTALS

- A. Provide the following requested information in accordance with Section [project specific] Submittal Procedures.
- B. Action Submittals:
  - 1. Product Data:
    - a. Air Barrier Manufacturer's guide specification
    - b. Air Barrier Manufacturer's complete set of technical data sheets for assembly
    - c. Air Barrier Manufacturer's complete set of guide details for assembly
  - 2. Certificates:
    - a. Product certification confirming assembly components are supplied and warranted by a single source Air Barrier Manufacturer

- b. LEED HPD declaration
- 3. Tests and Evaluation Reports:
  - a. NFPA 285 wall assembly compliance:
    - 1. Air Barrier Manufacturer statement that anticipated wall assembly complies with NFPA 285
- 4. Warranty:
  - a. Sample warranty as specified

1.08. QUALITY ASSURANCE

- A. Single Source Responsibility:
  - 1. Obtain air barrier and auxiliary materials including adhesive/primer, air barrier, flashings, and sealants from a single Air Barrier Manufacturer regularly engaged in the manufacturing and supply of the specified products.
  - 2. Verify product compliance with federal, state, and local regulations.
- B. Manufacturer Qualifications:
  - 1. Air Barrier Manufacturer shall demonstrate qualifications to supply materials of this Section by certifying the following:
    - a. Air Barrier Manufacturer must not issue warranties for terms longer than they have been manufacturing and supplying specified products for similar scope of Work.
- C. Installer Qualifications:
  - 1. Perform Work in accordance with the Air Barrier Manufacturer’s published literature and as specified in this Section.
  - 2. Maintain one (1) copy of the Air Barrier Manufacturer’s installation instructions on site.
  - 3. At all times during the execution of the Work allow access to site by the Air Barrier Manufacturer representative.
  - 4. If meeting with the Air Barrier Manufacturer during project construction, contact the Air Barrier Manufacturer a minimum of two weeks prior to schedule meeting.

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SPEC NOTE: Create mock-up to establish quality of work where practical. Projects not referencing Mock-Ups delete Section “1.09” as stated below.  
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1.09. MOCK-UPS

- A. Mock-ups: Construct mock-ups to verify selections made under submittals and to set quality standards for materials and execution in accordance with Section [project specific] for mock-ups and as follows:
  - 1. Where directed by [engineer] [architect] [consultant], construct typical exterior wall section, six and one-half (6.5) feet by six and one-half (6.5) feet, incorporating [project specific], substrate materials, and adjacent materials including flashing, door frame, window frame, attachment of insulation and [project specific]; showing air barrier application details.
- B. Notify [engineer] [architect] [consultant] a minimum seven (7) days prior to mock-up construction.
- C. Review and acceptance of mock-ups does not constitute approval of deviations from the Contract Documents contained in mock-ups unless [engineer] [architect] [consultant] specifically notes such deviations in writing.
- D. Once reviewed by [engineer] [architect] [consultant], acceptable mock-up can form a permanent part of the Work, and will form the basis for acceptance for the remainder of the project.
- E. Remove and replace materials found unacceptable at no additional cost to Owner.

1.10. DELIVERY, STORAGE, AND HANDLING

- A. Delivery of Materials:
  - 1. Deliver materials to the jobsite in undamaged and clearly marked containers indicating the name of the Air Barrier Manufacturer and product.
  
- B. Storage of Materials:
  - 1. Store materials as recommended by the Air Barrier Manufacturer and conform to applicable safety regulatory agencies. Refer to all applicable data including, but not limited to, Safety Data Sheet (SDS), Technical Data sheet (TDS), product labels, and specific instructions for personal protection.
  - 2. Keep solvents away from open flame or excessive heat.
  - 3. Store materials in original packaging.
  - 4. Protect rolls from direct sunlight until ready for use.
  - 5. Refer to Air Barrier Manufacturer’s product TDS.
  
- C. Handling:
  - 1. Refer to Air Barrier Manufacturer’s product TDS.

1.11. SITE CONDITIONS

- A. Environmental Requirements:
  - 1. Do not perform Work during rain or inclement weather.
  - 2. Do not perform Work on frost covered substrates or surfaces that are wet to touch.
  
- B. Protection:
  - 1. It is the responsibility of the installing Subcontractor to protect all surfaces not included in scope of Work from overspray including, but not limited to, windows, doors, adjacent areas, and vehicles.
  - 2. Cap and protect exposed back-up walls against wet weather conditions during and after application of air barrier assembly.
  
- C. Complete preparation Work prior to installing air barrier.
  
- D. Ground all equipment during operations.

1.12. WARRANTY

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SPEC NOTE: Henry® offers multiple warranty configurations for Blueskin® VP160 Self-Adhered Water Resistive Air Barrier for products supplied by Henry®. Choose from the following and delete Sections not applicable to the project specific specification.  
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- A. Manufacturer's Single Source Warranty; choose from the following:
  - 1. Product Warranty:
    - a. Manufacturer must warrant the material against product defect for a period of one (1) year from date of purchase.
  - 2. Assembly Warranty:
    - a. Manufacturer must warrant the assembly against product defect for a period of twelve (12) years from the date of substantial completion.

**PART 2 - PRODUCTS**

2.01. MANUFACTURERS

- A. Air Barrier and auxiliary materials shall comply with the following system requirements:

1. Obtain air barrier and auxiliary materials as a single-source from the Air Barrier Manufacturer to ensure total system compatibility and integrity.
2. Air leakage:
  - a. ASTM E2357: Pass
  - b. CAN/ULC-S742-11: Classification A1
  - c. CAN/ULC S741-08
3. Water resistance:
  - a. AATCC TM127: Pass
  - b. ASTM E331: Pass
4. Nail Sealability:
  - a. AAMA 711-13, ASTM D1970: Pass

B. Acceptable Manufacturers:

1. Henry® Company  
 999 N. Sepulveda Blvd. Suite 800  
 El Segundo, CA 90245  
 (800) 486-1278  
[www.henry.com](http://www.henry.com)

2.02. MATERIALS

A. Primary Sheet-Applied, Vapor Permeable Water Resistive Air Barrier (Basis of Design):

1. Self-adhered vapor permeable, water resistive air barrier consisting of a reinforced, modified polyolefin tri-laminate film surface and patented permeable adhesive technology with split-back poly-release film; having the following typical physical properties:
  - a. Basis of design: Henry® Blueskin® VP160 Self-Adhered Water Resistive Air Barrier
  - b. Color: Blue
  - c. Thickness: 23 mils (0.58 mm)
  - d. Water Vapor Permeance (ASTM E96): 29 perms
  - e. Air Leakage of Air Barrier Assemblies (ASTM E2357): Pass
  - f. Air Permeance (ASTM E2178): Pass
  - g. Nail Sealability (ASTM D1970): Pass
  - h. Dry Tensile Strength (ASTM D882):
    1. 41 lbf /182N MD
    2. 29 lbf /129N CD
  - i. Surface Burning Characteristics (ASTM E84):
    1. Flame Spread: Class A
    2. Smoke Development: Class A
  - j. Low Application Temperature: 20 degrees F (-7 degrees C)

B. Assembly Auxiliary Materials:

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SPEC NOTE: Delete adhesives/primers that do not comply with ordinances and/or not relevant to specification.

SPEC NOTE: Refer to Henry® Blueskin® VP160 Installation manual for recommended adhesives/primers.

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1. Adhesives/Primers:
  - a. Standard VOC adhesive:
    1. Synthetic rubber based quick setting adhesive; having the following typical physical properties:
      - a. Basis of design: Henry® Blueskin® Adhesive
      - b. Color: Blue
      - c. Maximum VOC: 450 g/L
      - d. Drying time (initial set): 30 minutes
      - e. Low Application Temperature: 10 degrees F (-12 degrees C)
  - b. Low VOC adhesive:

1. Synthetic rubber based quick setting adhesive with low VOC content; having the following typical physical properties:
  - a. Basis of design: Henry® Blueskin® LVC Adhesive
  - b. Color: Blue
  - c. Maximum VOC: <240 g/L
  - d. Drying time (initial set): 30 minutes
  - e. Low Application Temperature: 10 degrees F (-12 degrees C)
2. Polymer emulsion water based quick setting adhesive with low VOC content; having the following typical physical properties:
  - a. Basis of design: Henry® Aquatac™ Primer
  - b. Color: Aqua
  - c. Maximum VOC: 50 g/L
  - d. Drying time (initial set): 30 minutes
  - e. Low Application Temperature: 25 degrees F (-4 degrees C)

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SPEC NOTE: Use Henry® Blueskin® Spray Prep Adhesive with Henry® Air-Bloc® LF Liquid-Applied Flashing over raw gypsum sheathing edges. Projects not utilizing Henry® Air-Bloc® LF Liquid-Applied Flashing delete Section “2.02.B.1.c” and coordinate with Section “3.03.C Application of flashing”.  
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- c. Aerosol spray adhesive:
  1. Quick drying spray adhesive used to prepare construction surfaces for the application of flashings; having the following typical physical properties:
    - a. Basis of design: Henry® Blueskin® Spray Prep Adhesive
    - b. Color: Clear amber
    - c. Solids by weight: 35%
    - d. Drying time (initial set): 3 minutes
    - e. Low Application Temperature: -10 degrees F (-23 degrees C)
- d. Quick setting primers:
  1. Synthetic rubber based quick setting adhesive with low VOC content; having the following typical physical properties:
    - a. Basis of design: Henry® Blueskin® LVC Spray Primer
    - b. Color: Blue
    - c. Maximum VOC: 250 g/L
    - d. Dry time: 1-3 minutes
    - e. Low Application Temperature: 40 degrees F (4.4 degrees C)
2. Liquid-Applied Flashing:
  - a. Moisture-curing single component elastomeric liquid-applied flashing using a highly advanced Silyl-Terminated Polyether (STPE) polymer curing to a monolithic membrane; having the following typical physical properties:
    1. Basis of design: Henry® Air-Bloc® LF Liquid-Applied Flashing
    2. Color: Blue
    3. Air Permeance (ASTM E2178): Pass
    4. Water Vapor Permeance (ASTM E96): 21.8 perms @ 25 mils
    5. Air Leakage of Air Barrier Assemblies (ASTM E2357): Pass
    6. Water Resistance (AC212/ASTM D2247): Pass
    7. Nail Sealability (AAMA 711): Pass
    8. Surface Burning Characteristics (ASTM E84):
      - a. Flame Spread: Class A
      - b. Smoke Development: Class A
    9. Elongation (D412): 264%
    10. Low Application Temperature: 20 degrees F (-7 degrees C)
3. Self-Adhered Flashing:

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SPEC NOTE: For maximum adhesion of adjacent products Henry® recommends the use of Henry® Blueskin® Butyl Flash or Henry® Metal Clad® Self-Adhered Water Resistive Air Barrier for self-adhered non-vapor permeable  
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flashings in lieu of Henry® Blueskin® SA Self-Adhered Water Resistive Air Barrier.

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- a. Non-Vapor Permeable Flashing:
  - 1. Non-vapor permeable, self-adhered water resistive air and vapor barrier consisting of a synthetic butyl compound integrally laminated to a white engineered polypropylene film surface; having the following typical physical properties:
    - a. Basis of design: Henry® Blueskin® Butyl Flash
    - b. Color: White
    - c. Thickness: 14 mils (0.36 mm)
    - d. Water Vapor Permeance (ASTM E96): 0.14 perms
    - e. Nail Sealability (ASTM D1970): Pass
    - f. Elongation (ASTM D412): 825% minimum
    - g. Low Application Temperature: 25 degrees F (-4 degrees C)
  - 2. Non-vapor permeable, self-adhered water resistive air and vapor barrier consisting of an SBS rubberized asphalt compound integrally laminated to a high strength polyethylene with surface layer of metallic aluminum film; having the following typical physical properties:
    - a. Basis of design: Henry® Metal Clad® Self-Adhered Water Resistive Air Barrier
    - b. Color: Metallic Aluminum
    - c. Thickness: 45 mils (1.14 mm)
    - d. Water Vapor Permeance (ASTM E96): 0.014 perms
    - e. Nail Sealability (ASTM D1970): Pass
    - f. Elongation (ASTM D412): 85%
    - g. Low Application Temperature: 20 degrees F (-7 degrees C)
  - 3. Non-vapor permeable, self-adhered water resistive air and vapor barrier consisting of an SBS rubberized asphalt compound integrally laminated to a blue engineered thermoplastic film surface; having the following typical physical properties:
    - a. Basis of design: Henry® Blueskin® SA Self-Adhered Water Resistive Air Barrier
    - b. Color: Blue
    - c. Thickness: 40 mils (1 mm)
    - d. Water Vapor Permeance (ASTM E96): 0.86 perms
    - e. Nail Sealability (ASTM D1970): Pass
    - f. Elongation (ASTM D412-modified): 200% minimum
    - g. Low Application Temperature: 41 degrees F (5 degrees C)
  - 4. Low temperature non-vapor permeable, self-adhered water resistive air and vapor barrier consisting of an SBS rubberized asphalt compound integrally laminated to a blue engineered thermoplastic film surface; having the following typical physical properties:
    - a. Basis of Design: Henry® Blueskin® SALT Low Temp Self-Adhered Water Resistive Air Barrier
    - b. Color: Blue
    - c. Thickness: 40 mils (1 mm)
    - d. Water Vapor Permeance (ASTM E96): 0.86 perms
    - e. Nail Sealability (ASTM D1970): Pass
    - f. Elongation (ASTM D412-modified): 200% minimum
    - g. Low Application Temperature: 10 degrees F (-12 degrees C)
- b. Vapor Permeable Flashing:
  - 1. Self-adhered water resistive vapor permeable air barrier consisting of a reinforced modified polyolefin tri-laminate film surface and patented adhesive technology with split-back poly-release film; having the following typical physical properties:
    - a. Basis of design: Henry® Blueskin® VP160 Self-Adhered Water Resistive Air Barrier

- b. Color: Blue
  - c. Thickness: 23 mils (0.58 mm)
  - d. Water Vapor Permeance (ASTM E96): 29 perms
  - e. Nail Sealability (ASTM D1970): Pass
  - f. Low Application Temperature: 20 degrees F (-7 degrees C)
4. Sealants:
- a. Building Envelope Sealant:
    - 1. Moisture cure, medium modulus polymer modified sealing compound; having the following typical physical properties:
      - a. Basis of design: Henry® 925 BES Sealant
      - b. Color: Varies
      - c. Elongation: 450 – 550%.
  - b. Termination Sealant:
    - 1. One-part high performance synthetic rubber sealant; having the following typical physical properties:
      - a. Basis of design: Henry® 212 All Purpose Crystal Clear Sealant
      - b. Color: Clear
      - c. Elongation: 200% minimum
- C. Additional Materials:
- 1. Thru-Wall Flashing:
    - a. Non-vapor permeable self-adhered through-wall flashing consisting of an SBS rubberized asphalt compound integrally laminated to a yellow engineered thermoplastic film surface; having the following typical physical properties:
      - 1. Basis of design: Henry® Blueskin® TWF Thru-Wall Flashing
      - 2. Color: Yellow
      - 3. Thickness: 40 mils (1.0 mm)
      - 4. Water Vapor Permeance (ASTM E96): 0. 03 perms
      - 5. High Temperature Stability - Flow Resistance (ASTM D5147): Pass
      - 6. Low Application Temperature: 40 degrees F (4 degrees C)

## **PART 3 - EXECUTION**

### **3.01. EXAMINATION**

- A. Verification of Conditions:
  - 1. Verify substrates to receive Work and surrounding adjacent surfaces are in accordance with Air Barrier Manufacturer's installation guide and as specified in this Section prior to installation of self-adhered air barrier assembly.
  - 2. Continuous substrate:
    - a. Existing substrate must be continuous and secured prior to application of air barrier.
    - b. Securely fasten sheathing panels and install flush to ensure a continuous substrate in accordance with Air Barrier Manufacturer's installation guide and as specified in this Section.
    - c. Fastener penetrations must be set flush with sheathing and fastened into solid backing.
    - d. Refer to Air Barrier Manufacturer's details.
  - 3. Strike masonry joints flush.
  - 4. Concrete surfaces shall be smooth and without large voids, spalled areas or sharp protrusions. Refer to Air Barrier Manufacturer's details for substrate gap limitations.
  - 5. Remove concrete forms and allow new concrete to cure for a minimum of fourteen (14) days.
  - 6. Curing compounds or release agents used in concrete construction must be resin based without oil, wax or pigments.
  - 7. Do not install air barrier over substrates that are wet to touch.
- B. Notify Contractor in writing of any conditions that are not acceptable.

- C. The installing contractor shall examine and determine that surfaces and conditions are ready to accept the Work of this Section in accordance with the Air Barrier Manufacturer’s installation guide and as specified in this Section. Commencement of Work or any parts thereof shall mean installer’s acceptance of the substrate.
- D. Do not apply air barrier until substrate and environmental conditions are in accordance with Air Barrier Manufacturer’s installation guide and as specified in this Section.

3.02. PREPARATION

- A. All surfaces must be sound, dry, clean, and free of oil, grease, dirt, excess mortar, frost, laitance, loose and flaking particles, or other contaminants.
- B. Protect adjacent surfaces not included in scope of Work to prevent spillage and overspray.
- C. Cap and protect exposed back-up walls against wet weather conditions during and after application of the air barrier assembly.

3.03. INSTALLATION

- A. Ensure substrate is ready to receive air barrier in accordance with Air Barrier Manufacturer’s installation guide and as specified in this Section.
- B. Temperature limitation:
  - 1. Primary air barrier:
    - a. Substrate temperature must be above 20 degrees F (-7 degrees C) and rising.
  - 2. Auxiliary products:
    - a. Temperature limitations may vary. Refer to Air Barrier Manufacturer’s product TDS for product specific temperature limitations.
- C. Application of flashing:

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SPEC NOTE: Installation of Henry® Blueskin® Butyl Flash typically does not require adhesive/primer when installed on dry and clean sheathing substrates where temperature applications are greater than 25 degrees F (-4 degrees C). Refer to Henry® Blueskin® VP160 Installation manual for recommended adhesives/primers for concrete and masonry substrates or where adhesion enhancements are desired.

SPEC NOTE: Refer to Henry® Blueskin® VP160 Installation Manual for recommended adhesives/primers.

SPEC NOTE: Installation of Henry® self-adhered membranes typically does not require adhesive/primer when installed over wood substrates.

SPEC NOTE: Installation of Henry® Blueskin® VP160 Self-Adhered Water Resistive Air Barrier typically does not require adhesive/primer when installed on dry and clean sheathing substrates where temperature applications are greater than 40 degrees F (4 degrees C).

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- 1. Self-adhered flashing:
  - a. Where required install adhesive/primer recommended by Air Barrier Manufacturer continuously at rate recommended ensuring complete substrate coverage of anticipated flashing installation area.
    - 1. Allow adhesive/primer to cure to a tacky film prior to application of flashing.

2. Primed areas not covered by end of day must be re-primed prior to installation of flashing.
- b. Measure and cut self-adhered flashing to ensure adequate length to achieve continuous coverage of desired installation.
- c. Peel protective film from self-adhered flashing and align top of membrane verifying proper positioning prior to complete film removal and flashing placement.
- d. Press self-adhered flashing firmly into place by applying hand pressure to the middle of the membrane and working the pressure to the edges; eliminating wrinkles and air bubbles.
- e. Install self-adhered flashings in shingle fashion to eliminate reverse laps.
- f. Where required, prime laps at rate recommended by Air Barrier Manufacturer to ensure complete coverage of anticipated lap installation.
- g. Lap adjoining edges a minimum of two (2) inches.
- h. Roll flashing and laps with countertop roller to obtain thorough adhesion.
- i. Seal reverse laps at self-adhered flashing with sealant. Sealant recommendations may vary due to product or sequence of construction. Refer to Air Barrier Manufacturer details for recommended sealant.

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SPEC NOTE: Henry® Air-Bloc® LF Liquid-Applied Flashing only requires aerosol spray adhesive at raw gypsum sheathing edges. Projects not utilizing Henry® Air-Bloc® LF Liquid-Applied Flashing or substrates other than gypsum sheathing modify Section “3.03.C Application of flashing” and coordinate with Section “2.02 Materials”.  
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2. Liquid-applied flashing:
  - a. Apply a uniform film of aerosol spray adhesive to raw edges of gypsum sheathing at rate recommended by Air Barrier Manufacturer completely encapsulating loose gypsum core at the cut edge of gypsum sheathing.
  - b. Allow adhesive to cure to a tacky film prior to application of liquid-applied flashing.
  - c. Apply flashing in accordance with and at rate recommended by Air Barrier Manufacturer.
  - d. Spread flashing to achieve a monolithic membrane over substrate requiring flashing.
  - e. Allow flashing to cure prior to subsequent installations.

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SPEC NOTE: Review and coordinate with specific window manufacturer’s instructions prior to waterproofing window openings. Resolve any conflicts in the specifications, local codes, sequencing, materials or techniques between Window Manufacturer’s instructions and this Section prior to construction.  
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- D. Detailing/Flashing:
  1. Complete detailing and flashing installations per Air Barrier Manufacturer’s installation guide, details, and this specification.
  2. Refer to Air Barrier Manufacturer details for further clarification and installation procedures including, but not limited to, the following:
    - a. Inside corners
    - b. Outside corners
    - c. Pipe penetrations
    - d. Shelf angles
    - e. Wall to foundation transitions
    - f. Reverse laps
    - g. Construction joints

- h. Rough openings:
  - 1. Install rough opening details per Window Manufacturer's installation guide details and in accordance with ASTM E2112.
  - 2. Wall assemblies containing a vapor retarder on the interior wall assembly:
    - a. Extend flashing into rough opening to ensure sufficient membrane for connection with vapor retarder and provide a continuous air barrier assembly.
  - 3. Transitions:
    - a. Contact Air Barrier Manufacturer to coordinate transition of self-adhered air barrier to adjacent areas including, but not limited to, the following:
      - 1. Roof to air barrier
      - 2. Air barrier to vertical or horizontal waterproofing
      - 3. Fastener penetrations

- E. Thru-Wall Flashing:
  - 1. Coordinate with Section [project specific].

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SPEC NOTE: Refer to Henry® Blueskin® VP160 Installation Manual for recommended adhesives/primers.  
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- F. Application of Primary Sheet-Applied Vapor Permeable Water Resistive Air Barrier:
  - 1. Where required, install adhesive/primer recommended by Air Barrier Manufacturer continuously and at rate recommended by Air Barrier Manufacturer to ensure complete substrate coverage of anticipated flashing installation area.
    - a. Allow adhesive/primer to cure to a tacky film prior to application of air barrier.
    - b. Primed areas not covered by end of day must be re-primed prior to installation of air barrier.
  - 2. Peel protective film from primary air barrier and align top of verifying proper positioning prior to complete film removal and placement.
  - 3. Press primary air barrier firmly into place by applying hand pressure to the middle of the membrane and working the pressure to the edges; eliminating wrinkles and air bubbles.
  - 4. Install primary air barrier in shingle fashion to eliminate reverse laps.
  - 5. For lap adhesion enhancements, install standard or low VOC adhesive continuously and at rate recommended by Air Barrier Manufacturer to ensure substrate coverage of anticipated flashing installation area.
    - a. Allow adhesive/primer to cure to a tacky film prior to subsequent primary air barrier installation.
  - 6. Horizontal applications:
    - a. Horizontal seams: two (2) inch minimum.
    - b. Vertical seams: three (3) inch minimum.
  - 7. Roll primary air barrier and laps with countertop roller to obtain thorough adhesion.
  - 8. Seal permanent reverse laps of primary air barrier with termination sealant.

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SPEC NOTE: Henry® 212 All Purpose Crystal Clear Sealant is the only product recommended for use as a termination sealant where installation of termination, penetrations, and transition enhancements are required as described below.  
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- G. Special Considerations:
  - 1. Contact Air Barrier Manufacturer to verify product and installation requirements.

2. Wall assemblies identified as special conditions and requiring supplemental detailing may include, but are not limited to, any of the following:
  - a. Panelized wall assemblies.
  - b. Sloped wall assemblies.
  - c. Rainscreen cladding systems permitting permanent direct exposure to bulk water onto the primary air barrier within a completed wall assembly.
  - d. Claddings impeding drainage and/or promoting hydrostatic pressure:
    1. Horizontal Z-girts or furring strips installed directly onto air barrier in a manner to encourage water collection.

H. Fastener Penetrations Through Primary Air Barrier:

1. It is the responsibility of the installer penetrating the air barrier assembly to install fasteners and components in accordance with the Air Barrier Manufacturer's installation guide and as specified in this Section.
2. Installation requirements:
  - a. Drill fasteners and components with sufficient compression to maintain continuity in the air barrier assembly.
  - b. Refer to "Self-tapping fasteners" and/or "Pre-drilled fasteners".
3. Supplemental sealant:
  - a. Penetrations that do not meet installation requirements require the addition of termination sealant at point of insertion through the air barrier to maintain continuity in the air barrier assembly.
4. Self-tapping fasteners:
  - a. Fastener head/assembly component must be larger in diameter than the fastener shank.
  - b. Install fastener head/assembly component to provide a continuous compression firmly against the air barrier creating a gasketing seal without damaging the membrane.
  - c. Do not install fastener components through the air barrier over unsupported areas of the substrate such as sheathing joints.
  - d. Remove overdriven fasteners, improperly installed fasteners, defective/broken fasteners, or fasteners not properly fastened into the building structure beyond the air barrier membrane and seal the vacated hole with termination sealant prior to the installation of the exterior cladding.
5. Pre-drilled fastening assemblies:
  - a. Fastening head/assembly component must be larger in diameter than predrilled hole.
  - b. Install fastening head/assembly component to provide a continuous compression firmly against the air barrier creating a gasketing seal without damaging the membrane.
  - c. Do not install fastening components through air barrier over unsupported areas of the substrate such as sheathing joints.
  - d. Seal improperly drilled and/or vacated holes with termination sealant prior to the installation of the exterior cladding.

3.04. FIELD QUALITY CONTROL

A. Final Observation and Verification:

1. Owner's representative, General Contractor, or Air Barrier Manufacturer shall complete the final inspection of the air barrier assembly as required by warranty.
  - a. Contact Air Barrier Manufacturer for warranty issuance requirements.

- B. Install cladding as soon as practical after application. Air barrier assembly not designed for permanent UV exposure. Refer to Air Barrier Manufacturer's product TDS for product limitations.

3.05. CLEANING

- A. As the Work proceeds, and upon completion, promptly clean up and remove from the premises all rubbish and surplus materials resulting from the foregoing Work.
- B. Clean soiled surfaces, spatters, and damage caused by Work of this Section.
- C. Check area to ensure cleanliness and remove debris, equipment, and excess material from the site.

END OF SECTION