SECTION 07 27 00

WATER RESISTIVE AND AIR BARRIER ASSEMBLIES

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\*\* NOTE TO SPECIFIER \*\* TYPAR; sheathing membrane, air barrier, header wrap.  
This section is based on the products of TYPAR, which is located at:  
9335 Harris Corners Pkwy. Suite 300  
Charlotte, NC 28269  
Tel: 704-697-5100  
Email: [request info (info@typar.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=TYPAR&coid=35127&rep=&fax=&message=RE:%20Spec%20Question%20(07270fib):%20%20&mf=)  
Web: <http://www.typar.com>   
 [ [Click Here](https://www.arcat.com/arcatcos/cos35/arc35127.html) ] for additional information.  
The TYPAR Weather Protection System is developed and marketed by Berry Plastics one of the world's largest international non-woven fabrics and product innovation groups. In addition to construction materials, Fiberweb produces a complete range of non-woven products used in a variety of applications including landscaping products, geo textiles, filtration, hygiene, home care, home furnishings, electrical, medical, and more.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* First paragraph below is for TYPAR HouseWrap; second is for TYPAR DrainableWrap and TYPAR MetroWrap. Delete paragraph not required.

* + 1. Weather resistive barrier. (TYPAR HouseWrap)
    2. Water resistive and air barrier assemblies. (TYPAR DrainableWrap) (TYPAR MetroWrap) (TYPAR DrainableWrap Commercial)
    3. Water resistive and air barrier peel and stick assemblies. (TYPAR DrainableWrap Peel and Stick)
    4. Water resistive and air barrier commercial assemblies. (TYPAR DrainableWrap Commercial)
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete sections below not required for project; add others as required.

* + 1. Section 06 10 00 - Rough Carpentry.
    2. Section 06 16 36 - Wood Panel Product Sheathing.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from list below not required for project.

* + 1. ASTM International (ASTM):
       1. ASTM C765 - Standard Test Method for Low-Temperature Flexibility of Preformed Tape Sealants.
       2. ASTM C920 - Standard Specification for Elastomeric Joint Sealants.
       3. ASTM D779 - Standard Test Method for Water Resistance of Paper, Paperboard, and Other Sheet Materials by the Dry Indicator Method.
       4. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
       5. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
       6. ASTM D2523 - Standard Practice for Testing Load-Strain Properties of Roofing Membranes.
       7. ASTM D3330 - Method F Standard Test Method for Peel Adhesion of Pressure Sensitive Tape.
       8. ASTM D5034 - Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test).
       9. ASTM D5733 - Standard Test Method for Tearing Strength of Nonwoven Fabrics by the Trapezoid Procedure.
       10. ASTM E96 Standard Test Method for Water Vapor Transmission of Materials.
       11. ASTM E283 Standard - Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
       12. ASTM E1677 - Standard Specification for an Air Retarder (AR) Material or System for Low-Rise Framed Building Walls.
       13. ASTM E2112 - Standard Practice for Installation of Exterior Windows, Doors, and Skylights.
       14. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials.
       15. ASTM E2273 - Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies.
    2. American Association of Textile Chemists and Colorists (AATCC):
       1. AATCC- 27 - Hydrostatic Head Test.
    3. National Fire Protection Association (NFPA):
       1. NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components.
  1. SUBMITTALS

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs below not required for project.

* + 1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
    2. Product Data: Manufacturer's data sheets on each product to be used, including:
       1. Preparation instructions and recommendations.
       2. Storage and handling requirements and recommendations.
       3. Installation and maintenance methods.
    3. Test Results: Submit copies of test results showing performance characteristics equaling or exceeding those specified.
    4. Verification Samples: For each finish product specified submit 12 inch (305 mm) square sample for approval by the Architect.
  1. QUALITY ASSURANCE

\*\* NOTE TO SPECIFIER \*\* Delete paragraphs below not required for project.

* + 1. Manufacturer Qualifications: Obtain primary materials from a single manufacturer regularly engaged in manufacturing building wraps. Obtain secondary materials from a source acceptable to the primary materials manufacturer.
    2. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of two years demonstrated experience in installing products of the same type and scope as specified.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Deliver materials and products in unopened factory labeled packages.
     2. Store and handle in strict compliance with manufacturer's instructions and recommendations.
     3. Prevent damage or contamination to materials by construction activities.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: TYPAR, which is located at: 9335 Harris Corners Pkwy. Suite 300; Charlotte, NC 28269; Tel: 704-697-5100; Email: [request info (info@typar.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=TYPAR&coid=35127&rep=&fax=&message=RE:%20Spec%20Question%20(07270fib):%20%20&mf=); Web: <http://www.typar.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
    3. Obtain products from a single manufacturer.
  1. WATER RESISTIVE AND AIR BARRIER ASSEMBLIES

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + 1. Water Resistive and Air Barrier Assembly: TYPAR DrainableWrap by Fiberweb, for use in exterior walls with the following characteristics:
       1. Thickness: 31 mils per ASTM D1777.
       2. Drainage Gap: 1mm.
       3. Drainage Efficiency: 94.8 percent per ASTM E2273, exceeds AC38 Code requirement.
       4. Pliability: Pass per AC38.
       5. Breaking Strength-CD: 67 lbs per ASTM D5034.
       6. Breaking Strength-CD: 73 lbs per ASTM D5034.
       7. Trap Tear-MD: 30 lbs per ASTM D5733.
       8. Trap Tear-CD: 35 lbs per ASTM D5733.
       9. Hydrostatic Pressure Resistance: Great than 500 per AATCC 127.
       10. Moisture Vapor Transmission Rate: 10 perms per ASTM E96.
       11. UV Light Exposure Resistance: 6 months.
       12. Water Resistance Test: Pass per ASTM D779.
       13. Fire Rating: Class A, 0 flame spread index, 15 smoke developed index per ASTM E84.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + 1. Water Resistive and Air Barrier Assembly: TYPAR MetroWrap by Fiberweb, for use in exterior walls with the following characteristics:
       1. Thickness: 12.1 mils (0.31 mm).
       2. Breaking Strength Test: 94 pounds (418 N) mean value per ASTM D5034.
       3. Water Vapor Transmission: 10-20 perms (grains per hr.in.Hg.sq.ft.) per ASTM E 96, desiccant method.
       4. Pliability: No signs of cracking per AC38, Sec. 3.3.4.
       5. Ultraviolet Exposure: Not to be installed more than 12 months prior to exterior cladding coverage.
       6. Accelerated Aging Cycling: No signs of failure at 21 days per AC38.
       7. Water Resistance Test: Exceeds one hour per ASTM D 779.
       8. Elongation: 1.9 inches (4.8 cm) per ASTM D 5034, 4 inch (10.2 cm) wide sample.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + 1. Weather Resistive Barrier: TYPAR HouseWrap by Fiberweb, a non-woven, nonperforated spunbonded polypropylene weather membrane with microporous coating with the following performance characteristics.
       1. Gurley Hill TAPPI T-460 or sec/100cc &gt;2500.
       2. Water Vapor Transmission 10-20 perms as tested by ASTM E 96, Method A.
       3. Water penetration resistance of &gt;800 cm on hydrostatic head in accordance with AATCC 127.
       4. Trapezoidal Test of 30/33 lbs in accordance with ASTM D 5733.
       5. Air-Ins Less Than; .02L/S\*M2 @ 75 PA.
       6. Dry Indicator Method ASTM D 779 equal to 24 hour rating.
       7. Maximum Exposure Limit: 180 days.
    2. Manufacturer Accessory Products:

\*\* NOTE TO SPECIFIER \*\* Manufacturer recommends sealing tape for use over TYPAR substrate, against TYPAR logo side coating. Delete the following paragraph if not required for project.

* + - 1. Sealing Tape:
         1. Product: TYPAR Construction Tape by Fiberweb.
         2. Description: Elastomeric polymer based, butyl rubber, rubber based, meeting ASTM C 920 evaluation.
      2. Mechanical Fasteners:

\*\* NOTE TO SPECIFIER \*\* Manufacturer recommends plastic cap mechanical fasteners for use with substrate of wood, insulated sheathing board and exterior gypsum. Delete the following two paragraphs if not required for project.

* + - * 1. Plastic cap nails.
        2. Plastic cap staples.

\*\* NOTE TO SPECIFIER \*\* Manufacturer recommends rust resistant mechanical fasteners with washers for use over steel frame substrate. Delete the following paragraph if not required for project.

* + - * 1. Rust-resistant screws with washers.

\*\* NOTE TO SPECIFIER \*\* Manufacturer recommends polyurethane sealant and masonry fasteners with washers for use over masonry substrate. Delete the following paragraph if not required for project.

* + - * 1. Sealant: Polyurethane based, meeting ASTM C 920 evaluation.
        2. Mechanical: Masonry fastener with washer.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + - 1. Self-Adhering Sheet Flashing: TYPAR Flashing Flex by Fiberweb with the following characteristics.
         1. Face Material Composition: Conformable textured polyolefin.
         2. Face Color: Dark gray.
         3. Adhesive Composition: Butyl adhesive.
         4. Thickness: 60 mil.
         5. Release Liner: Siliconized paper.
         6. Dimensions: 6 inch x 75 ft (152 x 22.9 m). 9 inch x 75 ft (229 mm x 22.9 m).
         7. Low Temperature Flex: Meets or exceeds ASTM D 903.
         8. Nail Sealability: Meets or exceeds ASTM D 1970.
         9. Tensile Strength: Meets or exceeds ASTM D 2523.
         10. Maximum Exposure Limit: 90 days.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + - 1. Self-Adhering Sheet Flashing: TYPAR Flashing BA by Fiberweb with the following characteristics.
         1. Face Material Composition: Conformable Textured Polyolefin.
         2. Face Color: Gray.
         3. Adhesive Composition: Butyl adhesive.
         4. Thickness: 25 mil.
         5. Release Liner: Siliconized paper.
         6. Role Size: 4 inches x 75 ft (102 mm x 22.9 m).
         7. Role Size: 6 inches x 75 ft (152 mm x 22.9 m).
         8. Role Size: 9 inches x 75 ft (227 mm x 22.9 m).
         9. Low Temperature Flex: Meets or exceeds ASTM D 903.
         10. Nail Sealability: Meets or exceeds ASTM D 1970.
         11. Tensile Strength: Meets or exceeds ASTM D 2523.
         12. Maximum Exposure Limit: 180 days.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + - 1. Self-Adhering Sheet Flashing: TYPAR Flashing RA by Fiberwebwith the following characteristics.
         1. Face Material Composition: Polyolefin.
         2. Face Color: Gray.
         3. Adhesive Composition: Rubberized asphalt.
         4. Thickness: 25 mil.
         5. Release Liner: Siliconized paper.
         6. Dimensions: 4 inches x 75 ft (102 mm x 22.9 m). 6 inches x 75 ft (152 mm x 22.9 m). 9 inches x 75 ft (227 mm x 22.9 m). 12 inch x 75 ft (305 mm x 22.9 m).
         7. Low Temperature Flex: Meets or exceeds ASTM D 903.
         8. Nail Sealability: Meets or exceeds ASTM D 1970.
         9. Tensile Strength: Meets or exceeds ASTM D 2523.
         10. Maximum Exposure Limit: 90 days.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. WATER RESISTIVE AND AIR BARRIER PEEL AND STICK ASSEMBLlES
     1. Basis of Design: TYPAR DrainableWrap Peel and Stick as manufactured by Typar. Spunbonded polypropylene weather membrane with a microporous coating and layer of integrated polypropylene fibers, nonwoven, nonperforated and backed with an acrylic adhesive and a release film. Installs on exterior side of wall sheathing.
        1. Performance and Design Requirements:
           1. Drainage Efficiency Tested in Accordance with ASTM E2773: 94.8 percent.
           2. Peel Adhesion to OSB, Anodized Aluminum, Vinyl and Plywood, Tested in Accordance with ASTM D3330: Greater than 2.
           3. Cold Temperature Pliability Tested in Accordance with ASTM C765: Pass.
           4. Gurley Hill Air Penetration Resistance TAPPI T 460 or sec/100cc: Greater than 2500.
           5. Type I Air Barrier Material. Tested in accordance with ASTM E1677.
           6. Type II Water-Resistive Barrier. Tested in accordance with ASTM E2556.
           7. Water Vapor Transmission as Tested by ASTM E96-90, Method A: Greater than 10 perms.
           8. Water Resistance Test ASTM D779: Greater than 1 hour.
           9. Basis Weight per ASTM D5261: 4.2 oz per sq yard.
           10. Air-Ins (Air Leakage Test): Less than 0.02 L per sec.per sq m at 75 Pa.
           11. Breaking Strength Tested in Accordance with ASTM D5034 (Grab Tensile): 67 MD/73 CD lbs per inch.
           12. Trapezoidal Test in Accordance with ASTM D5733-9: 30/33.
           13. Surface Burning Characteristics Tested in accordance with ASTM E84 Class A:

Flame Spread: Pass.

Smoke Spread: Pass.

NFPA 285: Pass.

* + - 1. Manufacturer's Warranty: Limited product and limited system warranty available depending on the application, see the TYPAR Weather Protection System Limited Warranty located at www.TYPAR.com/downloads for warranty details.
    1. Manufacturer's Accessory Products: Sealing tape and fasteners.

\*\* NOTE TO SPECIFIER \*\* Manufacturer recommends construction tape for use over TYPAR substrate, against TYPAR logo side coating. Delete the following paragraph if not required for project.

* + - 1. TYPAR Construction Tape:
         1. Face Material Composition: Polyethylene Barrier.
         2. Face Color: Gray.
         3. Adhesive Composition: Acrylic.
         4. Thickness: 3.6 mils.
         5. Role Size: 1-7/8 inches x 165 ft (48 mm x 50.3 m).
         6. Role Size: 3 inches x 165 ft (76 mm x 50.3 m).
         7. Performance Characteristics:

Minimum Application Temperature: 0 degrees F (Minus 18 degrees C).

Maximum Application Temperature: 230 degrees F (110 degrees C).

Peel Adhesion PSTC-1 per the Pressure-Sensitive Tape Council.

Tensile Strength PSTC- 31 per the Pressure-Sensitive Tape Council.

* + - * 1. Accessories:

Primer: Use 3M Super 77, Polyken spray adhesive or equal.

Flashing Tape: TYPAR All-Temperature Flashing, TYPAR Flexible Flashing, and TYPAR Butyl Flashing.

Fastener: Fastener is dependent on substrate construction.

Sealant: Must comply with ASTM C920 elastomeric polymer sealant.

\*\* NOTE TO SPECIFIER \*\* Delete flashing paragraph if not required or delete flashing type not required.

* + - 1. Flashing:
         1. TYPAR All-Temperature Flashing.

Face Material Composition: Polyethylene Barrier.

Face Color: Gray.

Adhesive Composition: Block Copolymer.

Thickness: 16 mil.

Release Liner: Polyfilm.

Role Size: 4 inch (102 mm) x 75 ft (22.86 m).

Role Size: 6 inch (152 mm) x 75 ft (22.86 m).

Role Size: 9 inch (229 mm) x 75 ft (22.86 m).

Role Size: 12 inch (310 mm) x 75 ft (22.86 m).

Performance Characteristics:

Low Temp Pliability ASTM C765: Pass.

Nail Sealability ASTM D1970: Pass.

Tensile Strength ASTM D5034-95: Pass.

Peel Adhesion ASTM D3330-04: Pass.

Accessories:

Primer: Use 3M Super 77, Polyken spray adhesive or equal.

Seam Tape: TYPAR Construction Tape.

Fastener: Fastener is dependent on substrate construction.

Sealant: Must comply with ASTM C920 elastomeric polymer sealant.

* + - * 1. TYPAR Butyl Flashing.

Face Material Composition: Polyethylene Barrier.

Face Color: Gray.

Adhesive Composition: Butyl Rubber Adhesive.

Thickness: 18.5 mil.

Release Liner: Kraft Paper.

Role Size: 4 inch x 75 ft (102 mm x 22.86 m).

Role Size: 6 inch x 75 ft (152 mm x 22.86 m).

Role Size: 9 inch x 75 ft (229 mm x 22.86 m).

Role Size: 12 inch x 75 ft (310 mm x 22.86 m).

Performance Characteristics:

Low Temp Pliability ASTM C765: Pass.

Nail Sealability ASTM D1970: Pass.

Tensile Strength ASTM D5034-95: Pass.

Peel Adhesion ASTM D3330-04: Pass.

Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessory options not required.

Primer: Use 3M Super 77, Polyken spray adhesive or equal.

Seam Tape: TYPAR Construction Tape.

Fastener: Fastener is dependent on substrate construction.

Sealant: Must comply with ASTM C920 elastomeric polymer sealant.

* + 1. Recommended Sealants Against TYPAR Logo-Side Coating:
       1. Elastomeric polymer-based, butyl rubber, rubber-based, meeting ASTM C920 evaluation.
    2. Recommended Fasteners for Wood, Insulated Sheathing Board, Exterior Gypsum:
       1. Plastic cap nails.
       2. Plastic cap staples.
    3. Recommended Fasteners for Steel Frame Construction:
       1. Rust-resistant screws with washers.
    4. Recommended Fastening to Masonry:
       1. Sealant: Polyurethane-based, meeting ASTM C920 evaluation.
       2. Mechanical: Masonry fastener with washer.

\*\* NOTE TO SPECIFIER \*\* Delete article if not required.

* 1. WATER RESISTIVE AND AIR BARRIER COMMERCIAL ASSEMBLlES
     1. Weather Resistive Barrier: TYPAR Drainablewrap Commercial by Berry Global, Inc. A drainable water-resistive barrier and air barrier assembly on exterior side of wall sheathing.
        1. Spunbonded polypropylene weather membrane with a microporous coating and layer of integrated polypropylene fibers, nonwoven, nonperforated
        2. Performance and Design Requirements:
           1. Drainage Efficiency: 96.7 percent, when tested per ASTM E2773.
           2. Ultraviolet Exposure: Up to 12 months prior to exterior cladding coverage.
           3. Accelerated Aging Cycling: No signs of failure at 21 days per AC38.
           4. Air Penetration Resistance (Gurley Hill Porosity) TAPPI T 460 sec per 100 cc: Greater than 4800.
           5. Type I Air Barrier Material: Tested in accordance with ASTM E1677.
           6. Type II Water-Resistive Barrier: Tested in accordance with ASTM E2556.
           7. Water Vapor Transmission: 9 to 15 perms. Tested by ASTM E96, Method A.
           8. Water Resistance Test: Exceeds one hour per ASTM D779.
           9. Basis Weight: 3.7 oz per sq yd ASTM D5261.
           10. Air-Ins (Air Leakage Test): Less than 0.02 L per sec per sq m at 75 Pa.
           11. Breaking Strength (Grab Tensile): 93 MD/95 CD lbs per inch, when tested in accordance with ASTM D5034.
           12. Trapezoidal Test: 60/67 lbs when tested in accordance with ASTM D5733-9
           13. Surface Burning Characteristics: Class A. Tested in accordance with ASTM E84. Flame Spread: Pass. Smoke Spread: Pass.
           14. NFPA 285: Pass.
        3. Manufacturer's Warranty: Limited product and limited system warranty available depending on the application, see the TYPAR Weather Protection System Limited Warranty located at www.TYPAR.com/downloads for warranty details.
     2. Manufacturer's Accessory Products: Sealing tape and fasteners.

\*\* NOTE TO SPECIFIER \*\* Manufacturer recommends construction tape for use over TYPAR substrate, against TYPAR logo side coating. Delete the following paragraph if not required for project.

* + - 1. TYPAR Construction Tape:
         1. Face Material Composition: Polyethylene Barrier.
         2. Face Color: Gray.
         3. Adhesive Composition: Acrylic.
         4. Thickness: 3.6 mil.
         5. Role Size: 1-7/8 inches x 165 ft (48 mm x 50 m).
         6. Role Size: 3 inches x 165 ft (76 mm x 50 m).
         7. Performance Characteristics:

Minimum Application Temperature: 0 degrees F (-18 degrees C).

Maximum Application Temperature: 230 degrees F (110 degrees C).

Pressure-Sensitive Tape Council:

Peel Adhesion: PSTC-1.

Tensile Strength: PSTC- 31.

* + - * 1. Accessories:

Primer: Use 3M Super 77, Polyken spray adhesive or equal.

Flashing Tape: TYPAR All-Temperature Flashing, TYPAR Flexible Flashing, and TYPAR Butyl Flashing.

Fastener: Fastener is dependent on substrate construction.

Sealant: Must comply with ASTM C920 elastomeric polymer sealant.

\*\* NOTE TO SPECIFIER \*\* Delete seaming tape if not required.

* + - 1. TYPAR Double-Sided Seaming Tape:
         1. Face Material Composition: Paper Liner.
         2. Face Color: White paper liner, clear carrier film.
         3. Adhesive Composition: Acrylic.
         4. Thickness: 10.3 mils.
         5. Role Size: 1.5 inches x 180 ft (38 mm x 55 m)
         6. Performance Characteristics:

Minimum Application Temperature: 15 degrees F (-9 degrees C).

Maximum Application Temperature: 200 degrees F (92 degrees C).

Peel Adhesion per the Pressure-Sensitive Tape Council: PSTC-1.

Tensile Strength per the Pressure-Sensitive Tape Council: PSTC- 31

* + - 1. Manufacturer Accessory Products:

Primer: Polyken spray adhesive or equal.

Flashing Tape: TYPAR All-Temperature Flashing, TYPAR Flexible Flashing, and TYPAR Butyl Flashing.

Fastener: Fastener is dependent on substrate construction.

Sealant: Must comply with ASTM C920 elastomeric polymer sealant.

\*\* NOTE TO SPECIFIER \*\* Delete flashing paragraph if not required or delete flashing type not required.

* + - 1. Flashing:
         1. TYPAR All-Temperature Flashing.

Performance Characteristics:

Low Temp Pliability ASTM C765: Pass.

Nail Sealability ASTM D1970: Pass.

Tensile Strength ASTM D5034: Pass.

Peel Adhesion ASTM D3330: Pass.

Accessories:

Primer: Use 3M Super 77, Polyken spray adhesive or equal.

Seam Tape: TYPAR Construction Tape.

Fastener: Fastener is dependent on substrate construction.

Sealant: Must comply with ASTM C920 elastomeric polymer sealant.

* + - * 1. TYPAR Butyl Flashing:

Face Material Composition: Polyethylene Barrier.

Face Color: Gray.

Adhesive Composition: Butyl Rubber Adhesive.

Thickness: 18.5 mil.

Release Liner: Kraft Paper.

Role Size: 4 inches x 75 ft (23 m).

Role Size: 6 inches x 75 ft (23 m).

Role Size: 9 inches x 75 ft (23 m).

Role Size: 12 inches x 75 ft (23 m).

Performance Characteristics:

Low Temp Pliability ASTM C765: Pass.

Nail Sealability ASTM D1970: Pass.

Tensile Strength ASTM D5034: Pass.

Peel Adhesion ASTM D3330: Pass.

Accessories:

Primer: Use 3M Super 77, Polyken spray adhesive, or equal.

Seam Tape: TYPAR Construction Tape.

Fastener: Fastener is dependent on substrate construction.

Sealant: Must comply with ASTM C920 elastomeric polymer sealant.

* + 1. Recommended Sealants Against TYPAR Logo-Side Coating:
       1. Elastomeric polymer-based, butyl rubber, rubber-based, meeting ASTM C920 evaluation.
    2. Recommended Fasteners for Wood, Insulated Sheathing Board, Exterior Gypsum:
       1. Plastic cap nails.
       2. Plastic cap staples.
    3. Recommended Fasteners for Steel Frame Construction:
       1. Rust-resistant screws with washers.
    4. Recommended Fastening to Masonry:
       1. Sealant: Polyurethane-based, meeting ASTM C920 evaluation.
       2. Mechanical: Masonry fastener with washer.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly prepared.
      2. Prior to start of installation, inspect existing conditions to ensure surfaces are suitable for installation of specified products, including removal of sharp protrusions and that substrate is dry.
      3. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + 1. Installation of TYPAR DrainableWrap (Sheathing and Window Flashing): Method 1 - Modified O or Cut-Back Method: Comply with manufacturer's installation instructions including but not limited to the requirements specified in this section. Sequence construction such that TYPAR DrainableWrap is not exposed for more than 6 months before covering material is applied.

\*\* NOTE TO SPECIFIER \*\* Delete installation methods below not required for project.

* + - 1. Installation and Window Flashing: METHOD I - Modified "O" or "Cut-Back" Method.
      2. Installation and Window Flashing: METHOD II - Modified "I" or "Fold-in" Method.
      3. Installation and Window Flashing: METHOD III - "Windows-First" Method

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + 1. Installation of TYPAR MetroWrap: Comply with manufacturer's installation instructions including but not limited to the requirements specified in this section. Sequence construction such that TYPAR MetroWrap is not exposed for more than 12 months before covering material is applied.
       1. Overlaps: Install shingle style to shed water, with minimum 6 inch (15 cm) overlap vertically and horizontally, and 12 inches (30 cm) overlap at corners, at all locations where this is possible.
       2. Fasteners at Wood Studs: Use manufacturer's recommended fasteners with plastic heads. Use 2 inch (5 cm) long plastic headed nails or plastic headed screws when 1/2 inch (1.2 cm) thick OSB sheathing is used.
       3. Fasteners at Metal Studs: Use manufacturer's recommended fasteners with 2 inch (5 cm) plastic disk around shank of No. 10 stainless steel self-taping screws. Use 2 inch (5 cm) long screws when 1/2 inch (1.2 cm) thick gypsum board is used.
       4. Fastening at Concrete Block and Poured Concrete: Adhesive Recommended by manufacturer.
       5. Fastener Pattern: Attach one fastener or more every 24 inches (61 cm) in horizontal and vertical direction or at 16 inches (40 cm) in horizontal and 24 in the vertical if using 16 inch stud spacing.
       6. Edge Seal Where Material is Sealed to Itself: TYPAR Construction Tape.
       7. Edge Seal Where Material is Sealed to Adjacent Material: Install approved sealant on them substrate 1 inch (2.5 cm) to 2 inches (5 cm) back from the edge of the TYPAR MetroWrap. Press MetroWrap into the sealant to create air and water seal. If required by location of termination, provide furring strip to hold the TYPAR MetroWrap in place.
       8. Edge Seal at Penetrations: Install approved sealant on the substrate 1 inch (2.5 cm) back from the edge of the cut. Press MetroWrap into the sealant to create air and water seal. Install TYPAR Flashing Flex, TYPAR Flashing BA or TYPAR Flashing RA as specified on the exterior of the TYPAR MetroWrap to join the material to the penetration.
       9. Final Inspection of TYPAR MetroWrap: When each section is complete, the installer shall visually inspect the installation and verify that all rows of material have overlapped the row below it, that all materials and components have been installed in a shingle fashion, that the fasteners are the proper ones, that the nailing pattern is correct, that all penetrations and terminations have been done correctly and that doors and windows have been properly flashed and integrated into the MetroWrap material.
       10. The installer shall repair any cuts or tears with TYPAR Construction Tape.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph below if not required for project.

* + 1. TYPAR HouseWrap: Comply with manufacturer's installation instructions including but not limited to the requirements specified in this section. Sequence construction such that HouseWrap is not exposed for more than 6 months before covering material is applied.
       1. Overlaps: Install shingle style to shed water, with minimum 2 inch (5 cm) overlap horizontally, 6 inch (30 cm) overlap vertically, and 12 inches (30 cm) overlap at corners, at all locations where this is possible.
       2. Fasteners at Wood Studs: Use manufacturer's recommended fasteners with plastic heads. Use 2 inch (5 cm) long plastic headed nails or plastic headed screws when 1/2 inch (1.2 cm) thick OSB sheathing is used.
       3. Fasteners at Metal Studs: Use manufacturer's recommended fasteners with 2 inch (5 cm) plastic disk around shank of No. 10 stainless steel self-taping screws. Use 2 inch (5 cm) long screws when 1/2 inch (1.2 cm) thick gypsum board is used.
       4. Fastening at Concrete Block and Poured Concrete: Adhesive recommended by manufacturer.
       5. Fastener Pattern: Attach one fastener or more every 24 inches (60 cm) in horizontal and vertical direction.
       6. Edge Seal Where Material is Sealed to Itself: TYPAR Construction Tape.
       7. Edge Seal Where Material is Sealed to Adjacent Material: Install approved sealant on them substrate 1 inch (2.5 cm) to 2 inches (5 cm) back from the edge of the HouseWrap. Press HouseWrap into the sealant to create air and water seal. If required by location of termination, provide furring strip to hold the HouseWrap in place.
       8. Edge Seal at Penetrations: Install approved sealant on the substrate 1 inch (2.5 cm) back from the edge of the cut. Press HouseWrap into the sealant to create air and water seal. Install TYPAR Flashing Flex, TYPAR Flashing BA or TYPAR Flashing RA as specified on the exterior of the HouseWrap to join the material to the penetration.
       9. Final Inspection of HouseWrap: When each section is complete, the installer shall visually inspect the installation and verify that all rows of material have overlapped the row below it, that all materials and components have been installed in a shingle fashion, that the fasteners are the proper ones, that the nailing pattern is correct, that all penetrations and terminations have been done correctly and that doors and windows have been properly flashed and integrated into the HouseWrap material.
       10. The installer shall repair any cuts or tears with TYPAR Construction Tape.
       11. Cover with exterior cladding within 6 months of installation.

\*\* NOTE TO SPECIFIER \*\* Delete paragraph if not required.

* + 1. Installation of TYPAR DrainableWrap Peel and Stick:
       1. Install in accordance with manufacturer's instruction over exterior sheathing or open studs. Air infiltration barrier shall be airtight and free from holes, tears, and punctures. All window and door penetrations are to be flashed and sealed per ASTM 2112, AAMA guidelines and manufacturer instructions. Cover with exterior cladding within six months of installation.
       2. TYPAR Construction Tape: Follow the TYPAR flashing installation procedures.
       3. TYPAR All-Temperature Flashing: Follow the TYPAR flashing installation procedures.
       4. TYPAR Butyl Flashing: Follow the TYPAR flashing installation procedures.
    2. Install prior to installation of window over exterior sheathing or open studs, in accordance with manufacturer's instructions. Install air tight and free from holes, tears, and punctures.
    3. Flash and seal window and door penetrations per ASTM E 2112, AMMA guidelines and manufacturer instructions.
  1. PROTECTION
     1. Protect installed products until completion of project.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION