

SECTION 08 85 26 ARCHITECTURAL PANEL TAPE

This guide can be used to prepare a specification section for fabrication and installation of architectural panels with structural tapes. Architectural panel tapes utilize a high-performance acrylic foam structural tape to bond stiffeners the backside of architectural panels and to bond the architectural panels to a frame or clip attachment system in lieu of liquid applied sealants or mechanical fixing. Stresses/loads (wind loads, etc.) on the panels are transferred through the architectural panel tape to the supporting framing and then to the building structure. Only acrylic foam architectural panel tapes are appropriate for stiffener and panel bonding applications. Each application must be designed and detailed to withstand the imposed loads. These acrylic foam architectural panel tapes will be further listed as "panel tapes" in this specification guide.

This specification guide specifies factory bonded stiffeners and assembled panels which are then delivered to the job site and installed onto the building structure.

Where [] are indicated, edit the specification by selecting one or more of the bracketed choices, or delete the bracketed choices and insert project specific language.

PART 1 - GENERAL

1.1 GENERAL INSTRUCTIONS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes
 - 1. Architectural panel tape and related accessories.
 - 2. Structural engineering and detailing of panel tape joints.
 - 3. Preparing joint substrate surfaces.
 - 4. Application of primers and adhesion promoters.
 - 5. Adhesive application of panel tapes.
 - 6. Pressure application to facilitate contact of panel tape to substrate surfaces.

1.3 RELATED REQUIREMENTS

- A. Work specified in this Section is to be installed in conjunction with work specified in the following sections.
 - 1. Section 08 41 13 - Aluminum-Framed Entrances and Storefronts
 - 2. Section 08 44 13 - Glazed Aluminum Curtain Walls

Note to Specifier: Insert Section numbers and titles that specify the panels.

- 3. Section [*insert section number and title from the Architectural panel section*]

1.4 REFERENCES

- A. American Architectural Manufacturers Association (AAMA)
 - 1. AAMA 501-05 - Methods of Test for Exterior Walls
 - 2. AAMA 501.1-05 - Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure
- B. American Society of Civil Engineers (ASCE)
 - 1. ASCE 7 - Minimum Design Loads for Buildings and Other Structures.
- C. ASTM International (ASTM):
 - 1. ASTM C920 - Standard Specification for Elastomeric Joint Sealants
 - 2. ASTM C1087 - Standard Test Method for Determining Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems
 - 3. ASTM C1193 - Standard Guide for Use of Joint Sealants.
 - 4. ASTM D897 - Standard Test Method Tensile Properties of Adhesive Bonds
 - 5. ASTM D1002 - Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal)
 - 6. ASTM D3330 - Standard Test Method for Peel Adhesion of Pressure-Sensitive Tape
 - 7. ASTM D3654 - Standard Test Method for Shear Adhesion of Pressure-Sensitive Tapes
 - 8. 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
 - 9. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
- E. International Code Council (ICC)
- F. International Building Code (IBC)

Note to Specifier: Retain the following for projects which require LEED certification.

- G. Leadership in Energy and Environmental Design (LEED), under the U S Green Building Council's (USGBC) Green Building Rating System Standards

1.5 DEFINITIONS

- A. Structural Bite: Minimum width or contact surface of panel tape on (to bond metal panel to metal support frame or clip attachment system) required to meet the project performance and design requirements.

1.6 SUBMITTALS

- A. Provide in accordance with Section 01 33 00 Submittal Procedures
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1. Product Data: Provide manufacturer's materials literature for panel tapes, weatherproofing sealants, primers, adhesion promoters, cleaning solvents, and other accessories. Include material safety data sheets (MSDS) when applicable and certifications showing compliance with specified standards.
2. Shop Drawings
 - a. Indicate detailed tape placement, dimensions, structural bite/panel tape width, weather seal materials and support framing or clip attachment system.
 - b. Panel Schedule: Follow the same format and nomenclature indicated on the drawings
 - c. Prepare shop drawings under direct supervision of professional structural engineer experienced in design of panel tapes used in architectural panel systems. Provide shop drawings bearing engineer's certification.
3. Design Data Calculations
 - a. Provide panel tape joint design calculations indicating compliance with performance criteria and applicable loads, structural bite, tension, shear, and other parameters. Provide calculations bearing engineer's certification.
4. Field Quality Control Submittal: Reports indicating results of preconstruction testing specified in Article 1.8.
5. Manufacturer's Instructions: Standard Operating Procedure for fabrication and quality control testing.
6. Copy of warranties specified in Paragraph 1.12, when applicable, for review by Architect.

Note to Specifier: Include all or portions of the following for projects which are LEED certified and edit the subparagraph according to project requirements.

7. Sustainable Design Submittals: Submit the following for LEED Certification:
 - a. Product Data for Credit IEQ 4.1 Low-Emitting Materials: Adhesives and Sealants: For adhesives and sealants used to adhere panels to metal substrates, documentation including printed statement of VOC content for [New Construction and Major Renovations V2.2.] [Commercial Interiors V2.0.] [Core and Shell V2.0.]

Note to Specifier: Retain one or both to the Sections for closeout as appropriate for the Project.

- B. Provide in accordance with Section [01 77 00 - Closeout Procedures] [01 78 00 - Closeout Submittals]:
 1. Warranties:
 - a. Fully executed warranty for workmanship.
 - b. Manufacturers' fully executed warranty for application.

1.7 QUALITY ASSURANCE

- A. Fabricator / Installer's Qualifications: Company experienced in fabricating and installing panel systems with 5 years minimum successful experience and having completed 5 installations of similar scope and type as proposed Project, and acceptable to panel tape manufacturer for fabrication and installation of their products.
- B. Design panel tape dimensions under direct supervision of professional structural engineer experienced in design of panel tape used in architectural panel systems. Provide calculations and shop drawings bearing engineer's certification.
- C. Single Source Responsibility: Provide each type of panel tape, related primer(s) and backing products by a single manufacturer.
- D. Manufacturer's Representative: Visit the assembly facility to provide initial training prior to start of production and to provide periodic quality control reports (production audits) on tape installation. The panel tape manufacturer is responsible for training employees engaged in assembly using panel tape. This training must be provided in advance of an employee working on projects which utilize panel tapes.

1.8 PRECONSTRUCTION ACTIVITIES

- A. Adhesion Testing: Prior to application of panel tape, test each application condition to ensure satisfactorily adhesion to project specific substrate finishes (panel, frame, clip attachment profile or stiffener).
 - 1. Laboratory Testing:
 - a. Submit representative samples of substrates to manufacturer for laboratory test. Samples to include panels (2 panels, 12 inches x 12 inches (300mm x 300mm)) and production finished frame, clip attachment profile and/or stiffener sections (4 pieces, 12 inches (300mm) long or a minimum available bond area of 144 in²).
 - b. Peel Adhesion Testing: Perform a 90 degree peel adhesion test in accordance with ASTM D3330 on each substrate (panels and frame) and issue a Technical Report summarizing results. Test results shall meet or exceed the performance capacities of the panel tapes specified in Article 2.3.
 - c. Compatibility Testing: Prior to application of primary weather sealant, test gaskets, setting blocks and other installation accessories being provided for project to determine compatibility with structural silicone sealant(s) used in the project.
 - 1) Submit product name, manufacturer and part number of primary weather seal materials and accessories to tape manufacturer for review.
 - 2) Perform test in accordance with ASTM C1087.
 - d. Comply with manufacturer's requirements for surface preparation, primer and/or adhesion promoters as summarized in the Technical Report.
 - 2. Field Testing: If Laboratory testing is not practical or feasible, a simple field test can be completed to qualitatively determine the level of adhesion on a given substrate(s). Consult with the manufacturer on the process to be followed in the completion of a field test.
 - B. Compatibility Test: Contact panel tape manufacturer to determine compatibility of specified sealants, if used, and if additional testing is required.
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- C. Test Report: Submit Technical Report to Architect with description of test, results and recommendations for correcting design or material deficiencies.

1.9 MOCK-UPS

- A. In accordance with Section 01 40 00 - Quality Requirements, construct mock-up of [aluminum storefront framing] [aluminum curtain wall framing] [_____] with panels adhered with panel tape to illustrate workmanship, performance, and appearance.

1. Mock-Up consisting of:
 - a. [Aluminum] [Prefinished steel] [Stainless steel] [_____] framing to support panels specified in [Section 08 41 13 - Aluminum-Framed Entrances and Storefronts.] [Section 08 44 13 - Glazed Aluminum Curtain Walls.]
 - b. [_____] specified in Section [_____].
 - c. Panel tape, primer, adhesion promoters and other accessories specified in this Section.
2. Approximate Size of Mock-Up Unit: [_____].
3. Test mock-up to determine if design satisfies project performance requirements. Specific performance tests include [_____].
4. Submit report describing tests, results, and any modifications made to correct deficiencies or to improve performance.
5. Do not proceed with installation until mock-up has been inspected and accepted by qualified Architect, Engineer or Consultant.
6. Retain accepted mock-up during construction as quality standard if required. Completely remove at Project completion.

1.10 DELIVERY, STORAGE, PRODUCT HANDLING

- A. Deliver products in manufacturer's original containers clearly labeled with product identification, date of manufacture, and shelf life.
- B. Protect materials according to manufacturer's written instructions. Prevent damage to materials from condensation, temperature changes, direct exposure to sun, or other causes.
- C. Do not use tapes and primers/adhesion promoters after manufacturer's stated shelf life.

1.11 FIELD CONDITIONS

- A. Optimum Tape Application Temperature: Between 70 to 100 degrees F.(21 to 38°C.)
- B. Do not install tapes when temperature is:
 1. Below 60 degrees F (15 degrees C.)
 2. Above 122 degrees F. (50 degrees C.)

1.12 WARRANTIES

Note to Specifier: Retain one or both to the Sections for closeout as appropriate for the Project.

- A. Provide in accordance with Section [01 77 00 - Closeout Procedures] [01 78 00 - Closeout Submittals]:

Note to Specifier: The Manufacturer of the panel tape provides a limited application warranty for a period that is equal to the warranty of the finish or coating on the bonded substrates. Only projects which strictly adhere to manufacturer's process protocol for panel glazing projects will qualify for limited application warranty. Contact manufacturer to verify warranty time period and other requirements.

1. Installer's [5] [10] [_____] -year workmanship warranty printed on installer's preprinted letterhead, with authorized signatures and endorsements indicating obligations, remedies, limitations, and exclusions of warranty, and date of Substantial Completion.
2. Manufacturer's [10] [20] [_____] year application warranty for properly installed panel tape printed on installer's preprinted letterhead, with authorized signatures and endorsements indicating obligations, remedies, limitations, and exclusions of warranty, and date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. 3M, 3M Center, Building 225-5S-06, St. Paul, MN 55144-1000 (800) 362 3550.
- B. Substitution Limitations
1. During Bidding/Procurement Phase: To provide equivalent products of other manufacturers submit substitution requests in accordance with Document 00 26 00 - Procurement Substitution Procedures.
 2. During Construction Phase: To provide equivalent products of other manufacturers submit substitution requests in accordance with Section 01 25 00 - Substitution Procedures.

2.2 DESIGN CRITERIA

- A. General: Design and install panel tape to withstand these loads without rupture, loss, failure of adhesion, product deterioration and other defects.
1. Dead and Live Loads: Determined by ASCE 7 and calculated in accordance with applicable codes.

Note to Specifier: Select the appropriate criteria below.

2. Wind Loads
 - a. Basic Wind Speed: [85 mph (38 m/s)] [90 mph (40 m/s)] [100 mph (44 m/s)] [110 mph (49 m/s)] [_____].
 - b. Importance Factor: [_____].
 - c. Exposure Category: [A] [B] [C] [D].
 3. Thermal Loads and Movement: Ambient temperature range of [[120] [_____] degrees F] [[49] [_____] degrees C].
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4. Seismic Loads: Designed and installed system to comply with applicable seismic requirements for Project location and Seismic Zone defined by ICC/IBC.

B. Structural: Design panel tape joints as follows:

1. Structural Bite Under Dynamic Loading (Wind, Seismic): Determine based on a limiting tensile stress of 12 psi (85 kPa) [*insert a different pressure if project dictates*]. Round up calculated width to the nearest 1/8 inch (3 mm).
 - a. Provide minimum bite of 5/8 inch (15 mm) for all 4-sided or 2-sided panel tape applications.
2. Structural Bite Under Static Loading (Dead Load): Determine based on a limiting shear stress of 0.25 psi (1.7 kPa) Round up calculated bite to the nearest 1/8 inch (3 mm).
 - a. Provide mechanical dead load support for panel units if limiting shear stress of 0.25 psi (1.7 kPa) is exceeded..
 - b. Perform static load and dynamic load calculations on unsupported dead load panel applications.
 - c. Use the calculation resulting in the greater structural bite to determine the appropriate tape width for the application.
3. Shear Strain: Limit shear strain arising due to differential movement of panel and framing or stiffeners (Thermal, Seismic, Tolerance Effects) to 300 percent of the specified tape thickness.

2.3 PANEL TAPE MATERIALS

- A. Panel Tape: High performance double coated pressure sensitive acrylic foam closed cell tape used to attach architectural panels to metal frames in storefront systems, curtain wall systems and commercial windows replacing commonly using structural silicone sealants or mechanical fasteners and gaskets, complying with specified, and third-party verified, test results for performance, durability, UV and temperature resistance of acrylic foam chemistry.

Note to Specifier: Select G16F for tape 0.062 inches (1.55 mm) thick or select G11F for tape 0.045 inches (1.1 mm) thick .

1. 3M™ VHB™ Architectural Panel Tape [G16F] [G11F], as manufactured by 3M.
2. Composition: Conformable acrylic closed cell foam
3. Color: Gray (G).

Note to Specifier: Select 0.062" thick or 0.045" thick tape dependent on design criteria loading.

4. Thickness: [0.062 inches (1.55 mm)] [0.045 inches (1.1 mm)] ±10 percentage

Note to Specifier: Select the appropriate tape width dependent on design criteria loading.

5. Width: [5/8 inch (15 mm)] [3/4 inch (20 mm)] [1 inch (25 mm)] [1-1/4 inch (30 mm)] [1-1/2" (38 mm)]
 6. Density: 45 pcf (720 kg per cubic meter)
 7. Volatile Organic Compound (VOC) Content: Less than 5 grams per liter.
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8. Product Shelf Life: 24 months from Date of Manufacture when stored in original cartons at 70°F (21°C) and 50% relative humidity.
9. Performance Capacities: Tests performed at 70 degrees F (21 degrees C).
 - a. Peel Adhesion (ASTM D3330, Stainless Steel): Minimum 20 lbs per inch of width (350 N/100 mm) and cohesive failure mode.
 - b. Tensile Strength (ASTM D897, Aluminum T-Block): Minimum @ 2 inches (50 mm) per minute.
 - 1) Tape Type G16F: Minimum 80 psi (550 kPa).
 - 2) Tape Type G11F: Minimum 85 psi (585 kPa).
 - c. Dynamic Overlap Shear Strength (ASTM D1002, Stainless Steel): Minimum 70 psi @ 0.5 inches per minute.(480 kPa @ 12.7 mm per minute).
 - d. Static Shear Adhesion (ASTM D3654, Stainless Steel): 2.2 lbs per 0.5 sq. inch (1000 g per 3.2 sq. cm).
 - e. Temperature Resistances
 - 1) Short Term: 300 degrees F (149 degrees C).
 - 2) Long Term: 200 degrees F (93 degrees C)

Note to Specifier: Retain subparagraph below if required for LEED-NC, LEED-CI, LEED-CS when used to adhere panels to metal substrates.

10. To obtain Credit IEQ 4.1 for Low-Emitting Materials: Adhesives and Sealants, laminating adhesive shall have a VOC content of 5 grams per Liter or less when calculated in accordance with 40 CFR 59, Subpart D (EPA Method 24).

2.4 WEATHERPROOFING SILICONE SEALANT

- A. Type: One-part or two-part neutral cure silicone sealant; [*insert product name*], as manufactured by [*insert manufacturer's name*].
- B. Compliance: Sealant shall meet or exceed requirements of these standards:
 1. ASTM C920, Type [____], Grade [____], Class [____], Use [____].
- C. Color: [____].
- D. Shelf Life: [____] months.
- E. Application Temperature Range: [____] to [____] degrees [F] [C].
- F. Volatile Organic Compound (VOC) Content: [____] grams/liter.

2.5 ACCESSORIES

- A. Cleaning Solvents: A blend of isopropyl alcohol and water (50 to 70 percent isopropyl alcohol) as recommended by panel tape manufacturer to be compatible with tape and not adversely affect substrate. MEK or acetone as required to remove silicone and other difficult surface contaminants followed with an IPA wipe.
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- B. Cleaning Towels: Clean, soft, absorbent, lint-free disposable paper towels (e.g., Kimberly-Clark WypAll® X60 Wipers).
- C. Abrasion Pads: General purpose abrasion pads or wheels, 3M™ Scotch-Brite™ Hand Pad 7447, as required and manufactured by 3M. Abrasive material must be same as that used to prepare adhesion test samples (see Paragraph 1.8.B).
- D. Substrate Primer: One part solvent based primer for painted metals and opaque coated glass, as recommended for project conditions by 3M Technical Support; 3M™ Primer 94, as manufactured by 3M.
 - 1. Composition: Clear liquid solution.
 - 2. Color: Clear to light yellow.
 - 3. Flash Point: -4 degrees F (-20 degrees C).
 - 4. Volatile Organic Compound (VOC) Content: Greater than 250 grams per liter.
 - 5. Shelf Life: 18 months when stored at 70°F (21°C) and 50% relative humidity..
- E. Substrate Adhesion Promoter: One part solvent based adhesion promoter for panel tapes as recommended for project conditions by 3M Technical Support; 3M™ Adhesion Promoter 111, as manufactured by 3M.
 - 1. Composition: Isopropyl alcohol solution.
 - 2. Color: Clear.
 - 3. Flash Point: 52 degrees F (11 degrees C).
 - 4. Volatile Organic Compound (VOC) Content: 780 grams per liter.
 - 5. Shelf Life: 12 months when stored at 70°F (21°C) and 50% relative humidity.

PART 3 - EXECUTION

3.1 GENERAL

Note to Specifier: Insert section number and title where panels are specified.

- A. Shop fabricated panels specified in Section [*insert specification number & title where panels are specified*] specified in Section 08 44 13 - Glazed Aluminum Curtain Walls.] [*storefront specified in Section 08 44 13 - Aluminum-Framed Entrances and Storefronts.*] [_____] Bond panel to metal support members and stiffeners with panel tape using method as detailed on drawings and indicated in reviewed shop drawings.
 - B. To ensure compatibility and correct sizes, coordinate provision of panels, support framing or clip attachment system, stiffeners, and sealants.
 - C. The process steps involving surface preparation, application of panel tape and final bonding of panels and stiffeners must be completed in a controlled environment at a minimum temperature of 60°F (15 C) or 50°F (10 C) if an approved primer or adhesion promoter is used.
 - D. Prepare substrates and apply panel tape in accordance with manufacturer's instructions (Standard Operating Procedure) and reviewed shop drawings. Material changes or deviation of process requirements must first be approved by the panel tape manufacturer.
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- E. Handle, store, and apply materials in compliance with applicable Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA), volatile organic compound (VOC), and other regulations and manufacturer's material safety data sheets (MSDSs).
- F. Do not apply weatherproofing sealants in totally confined spaces without ventilation for curing.

3.2 PREPARATION

- A. Inspect substrates to receive panel tape. Ensure that:
 - 1. Metal framing, clip attachment profiles, and stiffener surfaces to receive panels are flat and smooth without slots, serrations, swarf, and other irregularities. Mis-match of frame joinery shall not exceed 0.02 inches (0.5mm). Do not use warped or bowed frame profiles as this will limit the ability of the tape to make contact to both bonding surfaces.
 - 2. Verify aluminum framing, clip attachment profiles, and stiffener finishes are compatible with panel tape (alodine, anodized, mil finish, fluorocarbon based paint, or polyester powder coat finish). Do not apply panel tapes to other finishes unless special approval has been received in writing from the tape manufacturer.
 - 3. Ensure surfaces are clean, dry, and free of frost/moisture, dust, dirt, grease, oil, mildew, and other contaminants that might affect adhesion. Remove excess cured sealant materials from bonding area of panels (if present) and along edge at points where panel tapes will be placed. Refer to panel tape or sealant manufacturer for instructions on proper removal.
 - 4. Do not use excessively warped panels during the fabrication process which will limit the ability of the tape to make contact to both bonding surfaces and also place an excessive static stress (spring-back force) on the panel tape.
- B. Prepare architectural panel substrates in accordance with results of pre-installation testing (1.8 B). Refer to 3M Technical Report and project specific Standard Operating Procedure (SOP) guidelines.

Note to Specifier: Retain the following 2 subparagraphs if required in accordance with 3M SOP guidelines. If deleting, then renumber the subsequent paragraphs.

- [1. Abrade the bonding area of the frame using 3M™ Scotch-Brite 7447 abrasion pad, if required per 3M requirements.]
 - [2. After abrading surface clean the metal substrate to ensure removal of all loose particles using the "two cloth" method involving wetted Towel followed immediately with a clean, dry Towel.]
 - 3. Pour cleaning solution onto a clean, absorbent, lint-free disposable towel (Towel). Remove contaminants wiping in one direction only. Alternatively, spray cleaning solution onto bonding area followed by wiping in only one direction. Repeat this step if dirt/residue is visible in the bond area or on Towel surface. Do not re-use Towels. Do not use recycled clothing towels.
 - 4. Immediately wipe cleaned area with a separate clean and dry Towel before cleaning solution has evaporated wiping only in one direction.
 - 5. Apply primer or adhesion promoter if required in accordance with the 3M Technical Report and project specific SOP.
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- a. Apply primer (as required) using clean Towel or dauber bottle. Allow to dry as a thin coat to avoiding puddling leaving a tack free film. Begin tape bonding immediately to avoid recontamination.
 - b. Apply adhesion promoter (as required) using a two cloth cleaning method leaving no visible residue on the surface. Begin tape bonding immediately to avoid recontamination of the bond area.
- C. Prepare metal frame, clip attachment profiles, and stiffener surfaces in accordance with results of pre-installation testing. Refer to 3M Technical Report and project specific SOP guidelines. Basic surface preparation may include:

Note to Specifier: Retain the following 2 subparagraphs if required in accordance with 3M SOP guidelines. If deleting, then renumber subsequent paragraphs.

- [1. Abrade the bonding area of the frame using 3M™ Scotch-Brite 7447 abrasion pad, if required per 3M requirements.]
- [2. After abrading surface clean the metal substrate to ensure removal of all loose particles using the “two cloth” method involving wetted Towel followed immediately with a clean, dry Towel. Do not use recycled clothing towels.]
- 3. Pour cleaning solvent onto a clean Towel. Remove contaminants by wiping in one direction only. Alternatively, spray cleaning solvent onto bonding area followed by wiping in only one direction with clean, dry Towel.
- 4. Immediately wipe cleaned area with a separate Towel before solvent has evaporated wiping only in one direction.
- 5. If heavy oils or grease are present, use degreasing solvent followed by a second two cloth cleaning to remove any solvent residue.
- 6. Apply primer or adhesion promoter if required in accordance with the 3M Technical Report and project specific SOP.
 - a. Apply primer (as required) using clean Towel or dauber bottle. Allow to dry as a thin coat to avoiding puddling leaving a tack free film. Begin tape bonding immediately to avoid recontamination.
 - b. Apply adhesion promoter (as required) using a two cloth cleaning method leaving no visible residue on the surface. Begin tape bonding immediately to avoid recontamination of the bond area.

3.3 APPLICATION

- A. Panel Tape Application: Handling only at edges, apply tape to substrate aligning with edge from one end along entire length. Alternatively, tape applicators may also be used for more precise application of tape. Overlap tape at corners when applicable. Apply light pressure on first application to avoid trapping bubbles between tape and substrate.
 - B. Panel Tape Splicing: Cut overlapped corner tape tabs to create 90 degree butt joint or a 45 degree mitre joint. Lift tape with knife blade to remove cut pieces. Allow tape to relax into place. Apply finger pressure to tape ends to ensure complete contact at splice joint.
 - C. Apply final roll down pressure of at least 15 psi (1 kg per square cm) over entire tape area to ensure good contact to the first substrate surface. Inspect tape surface for air bubbles
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(entrapped air). If bubbles are present, take a sharp blade and pierce through the tape followed by pressure application towards the slit to remove air.

- D. Assembly: Remove protective tape liner and bring frame, clip attachment profile or stiffener and panel together to bond in accordance with manufacturer's recommendations and SOP. Apply minimum pressure of 15 psi (1.0 kg per square cm) to bonded surface using pressure roller tool, clamps, vacuum table or other pressure application methods approved by tape manufacturer.
- E. Weather Sealant: Apply weather proofing silicone sealant specified per system design.

3.4 FIELD QUALITY CONTROL

- A. Along with the requirements for factory/shop fabricated architectural panels specified above, comply with the following field installation requirements:
 - 1. Keep panel units at a temperature of at least 60 degrees F (15 degrees C) for a minimum of 24 hours prior to installation and prior to application of live loads, when exterior temperatures are less than 60 degrees F (15 degrees C).
 - 2. Maintain temperature of minimum 60 degrees F (15 Degrees C) of installing materials (panels, tape, sealants, primers and adhesion promoters) 12 hours prior to the beginning of the installing process.

3.5 CLEANING AND PROTECTION

- A. Protect panel tapes and sealants from damage immediately after installation in accordance with manufacturer's written instructions for protection. Do not apply markers or other protection products to installing materials.
- B. Protect panel tapes and sealants from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with panel tapes and sealant materials, remove substances immediately as recommended in writing by panel tape and sealant materials manufacturer.

END OF SECTION 08 85 26
