SECTION 097713 - STRETCHED-FABRIC WALL SYSTEMS

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
   * + 1. RELATED DOCUMENTS
          1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
       2. SUMMARY
          1. Section includes site-upholstered wall systems.
          2. Related Requirements:

Retain subparagraphs below to cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections.

Section 095443 "Stretched-Fabric Ceiling Systems" for site-upholstered systems applied to ceilings[**and for coordinated requirements for fabric**].

Section 097200 "Wall Coverings" for adhesively applied textile wall coverings[**and for coordinated requirements for fabric**].

Section 097723 "Fabric-Wrapped Panels" for decorative, fabric-wrapped wall panels that are not required to be tested for acoustical performance[**and for coordinated requirements for fabric**].

Section 098433 "Sound-Absorbing Wall Units" for shop-fabricated, acoustical wall panels tested for acoustical performance[**and for coordinated requirements for fabric**].

* + - 1. DEFINITIONS

Retain terms that remain after this Section has been edited for a project.

* + - * 1. NRC: Noise Reduction Coefficient.
        2. SAA: Sound Absorption Average.
      1. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.

If needed, insert list of conference participants.

* + - 1. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Product Data: For each type of product.

Generally, retain option in subparagraph below for fabric facing furnished by manufacturer.

Include fabric facing, frame edge and trim, core material, and mounting indicated.

* + - * 1. Sustainable Design Submittals:
        2. Shop Drawings: For each stretched-fabric system.

Include plans, elevations, sections, and installation and system details.

Include details at head, base, joints, and corners; and details at ceiling, floor base, and wall intersections. Indicate frame-edge profile and core materials.

Include details at cutouts and penetrations for other work.

Include direction of fabric weave and pattern matching.

Retain subparagraph below if fabric seams are permitted.

Show sewn-seam locations, types, and methods.

Retain "Samples for Initial Selection" and "Samples for Verification" paragraphs below for two-stage Samples.

* + - * 1. Samples for Initial Selection: For each type of fabric facing.

Include Samples of accessories involving color or finish selection.

* + - * 1. Samples for Verification: For the following products:

Delete "Fabric" subparagraph below if fabric is State furnished or preselected and specified; revise to suit Project.

Fabric: Full-width by approximately 36-inch- long Sample, but not smaller than required to show complete pattern repeat, from dye lot to be used for the Work, and with specified treatments applied. Mark top and face of fabric.

Frame System: 12-inch- square Sample(s) showing each edge profile and corner.

Core Material: 12-inch- square Sample at corner.

Retain option in "Assembled System" subparagraph below if fabric seams are permitted.

Assembled System: Approximately 36 by 36 inches, including joints in mockup.

Retain "Coordination Drawings" paragraph below if coordination is required for installation of products and materials by separate installers. Coordinate paragraph with other Sections specifying products listed below. Preparation of coordination drawings requires the participation of each trade involved in installations within the limited space.

* + - * 1. Coordination Drawings: Elevations and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

Electrical outlets, switches, and thermostats.

Items penetrating or covered by stretched-fabric systems including the following:

Lighting fixtures.

Air outlets and inlets.

Speakers.

Alarms.

Sprinklers.

Access panels.

Show operation of hinged and sliding components covered by or adjacent to stretched-fabric systems.

Coordinate "Qualification Data" paragraph below with "Quality Assurance" Article.

* + - * 1. Qualification Data: For Installer.

Retain "Product Certificates" paragraph below to require submittal of product certificates from manufacturers.

* + - * 1. Product Certificates: For each type of stretched-fabric system.
        2. Sample Warranty: For special warranty.
      1. CLOSEOUT SUBMITTALS
         1. Maintenance Data: For stretched-fabric systems to include in maintenance manuals. Include fabric manufacturer's written cleaning, stain-removal, restretching, and reupholstering instructions.
      2. MAINTENANCE MATERIAL SUBMITTALS
         1. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Fabric: For each fabric, color, and pattern installed, furnish length equal to 10 percent of amount installed, but no fewer than 10 sq. yd., full width of bolt.

Framing and Related Installation Items: Furnish manufacturer's full-length units equal to 5 percent of amount installed, but no fewer than five units, including unopened adhesives.

* + - 1. QUALITY ASSURANCE
         1. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
         2. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials, fabrication, and installation.

Indicate portion of wall represented by mockup on Drawings or draw mockup as separate element.

Build mockup of typical wall area [**as shown on Drawings**] [**48 inches wide by full height**].[**Include intersection of wall and ceiling, corners, and perimeters.**]

Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Director’s Representative specifically approves such deviations in writing.

Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

* + - 1. DELIVERY, STORAGE, AND HANDLING
         1. Comply with fabric and stretched-fabric system manufacturers' written instructions for minimum and maximum temperature and humidity requirements for shipment, storage, and handling.
         2. Deliver materials in unopened bundles and store in a temperature-controlled dry place with adequate air circulation.
      2. FIELD CONDITIONS
         1. Environmental Limitations: Do not install stretched-fabric systems until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work at and above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

Retain "Lighting" paragraph below if stretched-fabric appearance is affected by lighting conditions. According to stretched-fabric system manufacturers, some fibers may not be capable of uniform tensioning when stretched. Uneven tension causes uneven light reflection and may falsely appear as sags or wrinkles in the fabric facing. Revise to suit Project.

* + - * 1. Lighting: Do not install stretched-fabric systems until [**a permanent level of lighting**] [**a lighting level of not less than 50 fc**] is provided on surfaces to receive stretched-fabric systems.

Retain "Air-Quality Limitations" paragraph below to suit Project. See the Evaluations.

* + - * 1. Air-Quality Limitations: Protect stretched-fabric systems from exposure to airborne odors such as tobacco smoke, and install systems under conditions free from odor contamination of ambient air.
      1. WARRANTY
         1. Special Warranty: Manufacturer and Installer agree to repair or replace components of stretched-fabric systems that fail in performance, materials, or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

Acoustical performance.

Fabric sagging, distorting, or releasing from panel edge.

Warping of core.

Verify available warranties and warranty periods for systems and components.

Warranty Period: [**Two**] [**Five**] years from date of Substantial Completion.

1. PRODUCTS

Manufacturers and products listed in SpecAgent and Masterworks Paragraph Builder are neither recommended nor endorsed by the AIA or Deltek. Before inserting names, verify that manufacturers and products listed there comply with requirements retained or revised in descriptions and are both available and suitable for the intended applications.

* + - 1. MANUFACTURERS

Retain option in "Source Limitations" paragraph below if applicable.

* + - * 1. Source Limitations: Obtain stretched-fabric wall systems specified in this Section[**and stretched-fabric systems specified in Section 095443 "Stretched-Fabric Ceiling Systems"**] from single source from single manufacturer.
      1. PERFORMANCE REQUIREMENTS

Revise "Fire-Test-Response Characteristics" paragraph below as required by governing code for stretched-fabric system location, occupancy classification, and whether sprinklered or not. Verify and insert requirements of authorities having jurisdiction; verify whether testing products as whole finish-assemblies complete with fabric is required for Project. Below is based on the NYSBC; see the Evaluations.

* + - * 1. Fire-Test-Response Characteristics: Stretched-fabric wall systems shall comply with "Surface-Burning Characteristics" or "Fire Growth Contribution" Subparagraph below, or both, as determined by testing identical products by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:

Surface-Burning Characteristics: Comply with ASTM E84 or UL 723; testing by a qualified testing agency on systems prepared according to ASTM E2573. Identify products with appropriate markings of applicable testing agency.

Value in "Flame-Spread Index" subparagraph below is required for textile and expanded vinyl wall and ceiling coverings. Option in "Smoke-Developed Index" subparagraph below is the maximum allowed.

Flame-Spread Index: 25 or less.

Smoke-Developed Index: 450 or less.

Fire Growth Contribution: Comply with acceptance criteria of local code and authorities having jurisdiction when tested according to NFPA 286.

* + - 1. STRETCHED-FABRIC WALL SYSTEMS

Copy paragraph below and re-edit for each product. It is intended as a guide if Project requires systems of varying sizes or characteristics.

Insert drawing designation. Use these designations on Drawings to identify each product.

System construction, details, installation, and acoustical performance vary with manufacturer and type of system; coordinate acoustical performance with Project's acoustical designer.

* + - * 1. Stretched-Fabric Wall System <**Insert drawing designation**>: Manufacturer's standard system consisting of facing material stretched tightly over a frame[**and core material**] and secured in the frame.

[Manufacturers:](http://www.specagent.com/Lookup?ulid=11782) Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

[Accutrack Systems](http://www.specagent.com/Lookup?uid=123457016364).

[DFB Sales Inc](http://www.specagent.com/Lookup?uid=123457016367).

[Snap-Tex International LLC](http://www.specagent.com/Lookup?uid=123457016372).

[SoftWalls, Inc](http://www.specagent.com/Lookup?uid=123457016373).

Or equal.

Retain "Core" subparagraph below if system includes a core material. If retaining specific core materials below, consult stretched-fabric-system manufacturers for recommendations on material composition, weight, and acoustical properties. If retaining last option, indicate size and spacing of nailing strips on Drawings. Wood or plywood nailing strips within the core are usually not used because they reduce sound absorption and inhibit freedom of movement of the facing material.

Core: [**Manufacturer's standard**] [**Glass-fiber board**] [**Glass-fiber blanket**] [**Mineral-fiber board**] [**Cementitious-fiber board**] [**Medium-density fiberboard**] [**Particleboard**].[**Provide wood or plywood nailing strips in core where indicated.**]

Retain "Core-Face Layer" subparagraph below if different face layer is required for the core material to make the system impact resistant, tackable, or both.

Core-Face Layer: Manufacturer's standard [**tackable, impact-resistant, high-density board**] [**impact-resistant, acoustically transparent, copolymer sheet**].

Coordinate "Nominal Core Thickness," "Nominal Frame Thickness," and "Nominal Overall System Thickness" subparagraphs below or retain only one to avoid expense of furring out for flush face. Generally, core thickness determines acoustical performance and frame thickness determines the overall system thickness. Consult manufacturers on availability and core, frame, and system thicknesses.

Nominal Core Thickness: [**Match nominal frame thickness**] [**1/2 inch**] [**3/4 inch**] [**1 inch**] [**1-1/2 inches**] [**2 inches**] [**As indicated on Drawings**].

Retain "Core Overlay" subparagraph below for puffy look over a hard core. Core-overlay batting is generally not recommended by manufacturers for highest sound absorption.

Core Overlay: Polyester batting [**1/2 inch thick**] [**Manufacturer's standard thickness**].

Consider deleting "Frame Edge" subparagraph below if frame-edge profile is fully detailed on Drawings.

Frame Edge: [**Chamfered (beveled)**] [**Radiused (bullnosed)**] [**Square**] profile.

Fabric-Insertion Point: [**Bottom load**] [**Side load**] [**Top load**].

Nominal Frame Thickness: [**Match nominal core thickness**] [**1/2 inch**] [**3/4 inch**] [**1 inch**] [**1-1/2 inches**] [**2 inches**] [**As indicated on Drawings**].

Retain "Frame Color" subparagraph below if frame is exposed. The Stretched-Fabric Systems Table in the Evaluations notes some manufacturers that offer frame-color options. Verify availability with manufacturers.

Frame Color: [**Natural**] [**Black**] [**White**] [**Prepainted color as selected by Director’s Representative from full range of manufacturer's colors**].

Reveals between Panels: [**Recessed**] [**Flush**] [**Projecting**] reveals [**as selected by Director’s Representative from manufacturer's full range**] [**as indicated on Drawings**].

Generally, indicate facing material on Drawings or insert, in "Facing Material" subparagraph below, drawing designation of facing material specified in "Materials" Article.

Facing Material: [**State-furnished material**] [**As indicated on Drawings**].

Coordinate options retained in "Acoustical Performance" subparagraph below with core material and density. Options assume that facing material does not affect typical acoustical performance of core. Verify, with manufacturer, that NRC or SAA range retained is possible and practical for products. Manufacturers generally report NRC values only. Replace range with a single minimum or maximum value if required; a single value may be inadequate for Project's acoustical design. Revise mounting type to suit Project if required. See the Evaluations.

Acoustical Performance: Sound absorption [**NRC**] [**or**] [**SAA**] of [**0.50 to 0.90**] [**0.60 to 0.70**] [**0.65 to 0.75**] [**not less than 0.65**] [**not more than 0.35**] according to ASTM C423 for Type A mounting according to ASTM E795.

Nominal Overall System Thickness: [**Match nominal frame thickness**] [**1/2 inch**] [**3/4 inch**] [**1 inch**] [**1-1/2 inches**] [**2 inches**] [**As indicated on Drawings**].

* + - 1. MATERIALS
         1. Sustainable Design Requirements:

If retaining "Manufacturer's standard" option in "Core Materials" paragraph below, usually delete 10 subparagraphs below specifying core materials. Coordinate with "Stretched-Fabric Wall Systems" Article.

* + - * 1. Core Materials:[**Manufacturer's standard.**]

Generally, retain "Glass-Fiber Board" or "Glass-Fiber Blanket" subparagraph below; retain "Glass-Fiber Board" subparagraph for better sound absorption.

Glass-Fiber Board: ASTM C612; of type standard with manufacturer; nominal density of 6 to 7 lb/cu. ft., unfaced, and dimensionally stable, molded rigid board; and with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

Retain last option in "Glass-Fiber Blanket" subparagraph below for tackable glass-fiber blanket core.

Glass-Fiber Blanket: ASTM C553, ASTM C612, or ASTM C665; of type standard with manufacturer; nominal density of 3 to 4 lb/cu. ft.; flexible[**; with tackable, thermally bonded white glass-fiber mat facing;**] and with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively.

Mineral-Fiber Board: Maximum flame-spread and smoke-developed indexes of 25 and 10, respectively; minimum density of 13 lb/cu. ft., and with perforated surface.

Cementitious-Fiber Board: Density of not less than 20 lb/cu. ft..

Core materials in "Medium-Density Fiberboard" and "Particleboard" subparagraphs below are sound reflective rather than sound absorbing. Sound-diffusing or -reflecting cores vary with manufacturer and required acoustical performance; they can be made of sound-absorbing core materials with a reflective component or of an entirely different material. Consult manufacturers for material, material weight, and acoustical properties.

Medium-Density Fiberboard: Panels complying with ANSI A208.2, [**grade to suit performance requirements**] [**Grade 130**].

Fire-retardant panels made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 200 or less per ASTM E84 or UL 723.

Particleboard: Panels complying with ANSI A208.1, [**grade to suit performance requirements**] [**Grade M-2**].

Fire-retardant panels made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture to achieve flame-spread index of 25 or less and smoke-developed index of 25 or less per ASTM E84 or UL 723.

Retain "Tackable, Impact-Resistant, High-Density Board for Face Layer" subparagraph below for tackable face layer over glass-fiber board core. This layer provides tackability and some impact resistance and only minimally decreases sound-absorption performance of glass-fiber board core.

Tackable, Impact-Resistant, High-Density Board for Face Layer: 1/8-inch- thick layer of compressed molded glass-fiber board with a nominal density of 16 to 18 lb/cu. ft. laminated to face of core.

Retain "Core Overlay" subparagraph below for puffy look over mineral-fiber board, medium-density fiberboard, and particleboard. Core-overlay batting is generally not recommended by manufacturers for highest sound absorption. Consult manufacturers on suitability with required fabric.

Core Overlay: Flame-retardant, compressible, fiberfill, polyester batting.

Retain "Impact-Resistant, Acoustically Transparent, Copolymer Sheet for Face Layer" subparagraph below for high-abuse locations.

Impact-Resistant, Acoustically Transparent, Copolymer Sheet for Face Layer: 1/16- to 1/8-inch- thick layer of perforated, noncombustible, copolymer sheet laminated to face of core.

Retain "Wood and Plywood" subparagraph below for wood or plywood nailing strips; revise to suit Project. Requirements for fire-retardant treatment are based on the NYSBC.

Wood and Plywood: Manufacturer's standard plywood or clear, vertical grain, straight, kiln-dried hardwood.

Fire-retardant treated by pressure process with a flame-spread index of 25 or less when tested according to ASTM E84 or UL 723, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet beyond the centerline of the burners at any time during the test.

Treated material shall have a moisture content of 28 percent or less when tested according to ASTM D3201 at 92 percent relative humidity.

Kiln-dry material after treatment to 7 to 13 percent or less for lumber and 15 percent or less for plywood.

Revise "Frame Construction" paragraph below to suit Project. Manufacturers typically no longer offer wood or aluminum frames in favor of plastic frames. See the Evaluations.

* + - * 1. Frame Construction: Manufacturer's standard, continuous, extruded plastic frame (track).

Copy first paragraph below and re-edit for each product.

Insert drawing designation. Use these designations on Drawings to identify each facing material.

State-furnished facing materials must be acceptable to stretched-fabric system manufacturers if acoustical performance is specified; see the Evaluations. For highest acoustical absorption, a lining fabric or core-overlay batting is also generally not recommended by manufacturers.

* + - * 1. Facing Material <**Insert drawing designation**>: Fabric from same dye lot; color and pattern [**as indicated by manufacturer's designations**] [**matching Director’s Representative's samples**] [**as selected by Director’s Representative from manufacturer's full range**] [**as indicated on Drawings**].

Revise or delete subparagraphs below to coordinate with option retained in last paragraph above.

Manufacturer: <**Insert manufacturer's name**>.

Product Line/Pattern: <**Insert product name or designation**>.

Pattern Repeat: <**Insert requirement**>.

Style Number: <**Insert number**>.

Color: <**Insert name or number, or both**>.

Fiber Content: 100 percent [**woven polyester**] [**nonwoven polyester**] [**polyolefin**] [**acoustically transparent vinyl**].

Width: [**54 inches**] [**66 inches**].

Source: <**Insert fabric-vendor's name**>.

Retain treatments in "Applied Treatments" subparagraph below to suit Project. Treatments may affect appearance and acoustical performance and may not be offered or recommended by system manufacturer.

Applied Treatments: [**Stain resistance**] [**flame retardant**] [**acrylic backing, single coat**] [**acrylic backing, double coat**] [**latex backing**] [**foam backing**] [**and**] [**knit backing**].

Retain "Lining Material" subparagraph below if required. Lining material may be required by manufacturers for acceptable appearance of stretched-fabric systems or may not be recommended or permitted by manufacturers for highest acoustical absorption. Insert material designation, from "Lining Material" paragraph below, only if manufacturer's standard fabric might be unacceptable.

Lining Material: Manufacturer's standard fabric for each use indicated.

Retain "Trim Strip" subparagraph below if back-wrapping a trim strip of fabric to form a contrasting fabric along the frame edge of a top-load or side-load frame is required. Insert material designation, from "Trim Strip" paragraph below.

Trim Strip: <**Insert material designation**>.

Retain first paragraph below to identify a lining material, if required, by material designation. Copy paragraph and re-edit for each product.

Insert material designation. Use these designations in "Facing Material" paragraph to identify lining material.

State-furnished lining material must be acceptable to panel manufacturer; see the Evaluations.

* + - * 1. Lining Material <**Insert material designation**>: Fabric [**as indicated by manufacturer's designations**] [**matching Director’s Representative's samples**] [**as selected by Director’s Representative from manufacturer's full range**] [**as indicated on Drawings**].

Retain or delete subparagraphs below to coordinate with option retained in last paragraph above.

Manufacturer: <**Insert manufacturer's name**>.

Product Line: <**Insert product name or designation**>.

Style Number: <**Insert number**>.

Color: [**White**] <**Insert name or number, or both**>.

Fiber Content: <**Insert content by percentage and fiber type**>.

Width: [**54 inches**] [**66 inches**].

Source: <**Insert fabric-vendor's name**>.

Retain treatments in "Applied Treatments" subparagraph below to suit Project. Treatments may affect appearance and acoustical performance and may not be offered or recommended by system manufacturer.

Applied Treatments: [**Stain resistance**] [**and**] [**flame retardant**].

Retain paragraph below if trim strip of fabric is required for back-wrapping over the exposed part of the frame. Copy paragraph and re-edit for each product.

Insert material designation. Use these designations in "Facing Material" paragraph to identify trim-strip material.

* + - * 1. Trim Strip <**Insert material designation**>: Fabric [**matching facing material except as follows**].

Product Line: <**Insert product name or designation**>.

Style Number: <**Insert number**>.

Color: [**White**] <**Insert name or number, or both**>.

* + - 1. INSTALLATION MATERIALS
         1. Installation Products: Concealed on back of system, recommended by stretched-fabric system manufacturer to support weight of system, fabric tension, and as follows:

Adhesives to have a VOC content of 250 g/L or less.

Fasteners: Manufacturer's standard.

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine fabric, materials, substrates, areas, and conditions, with Installer present, for compliance with requirements, installation tolerances, and other conditions affecting performance of stretched-fabric systems.
          2. Proceed with installation only after unsatisfactory conditions have been corrected.
       2. PREPARATION

Retain first paragraph below for large stretched-fabric areas that require midspan frames.

* + - * 1. Measure each area and establish layout of panels and joints of [**uniform size with balanced borders at opposite edges**] [**sizes indicated on Drawings**] within a given area.
        2. Before installation, allow fabric to adjust and become stable in spaces where it will be installed according to stretched-fabric system manufacturer's written instructions. Acclimatize fabric for minimum of 24 hours at ambient temperature and humidity conditions indicated for spaces when occupied for their intended use.
      1. INSTALLATION
         1. Install stretched-fabric systems according to system manufacturer's written instructions.

Provide continuous perimeter frames of each profile indicated, designed to be inconspicuous when covered by fabric facing, with smooth edges, and with surface finish that will not telegraph through fabric facing.

Install framing around penetrations.

Tightly fit framing to adjacent construction and securely attach to substrate.

Install core material with full coverage, flush with face of stretched-fabric system frame.

Attach frame and core to substrate with adhesive or fasteners or both to support system and prevent deformation of components.

Install stretched-fabric systems level and plumb unless otherwise indicated, true in plane, and with fabric square to the grain.

Install jointed panels with [**butt joints**] [**and**] [**reveals**] as indicated.

Retain one of two subparagraphs below if nailing strips are required; revise to suit Project and load.

Provide wood or plywood nailing strips and blocking as indicated on Drawings.

Provide continuous 6-inch- wide by [**1-inch- thick, wood**] [**3/4-inch- thick, plywood**] nailing strips and blocking attached to supporting substrate with suitable fasteners for hanging artwork, centered at 60 inches above finish floor, unless otherwise indicated.

* + - * 1. Fabric Installation: Apply fabric monolithically in continuous run over area, without joints or reveals, except where panel joints or midspan frames are indicated.

Options in "Fabric Direction" subparagraph below refer to horizontal and vertical application of fabric, respectively, as unrolled from the bolt.

Fabric Direction: Run fabric [**railroaded**] [**up the bolt**].

Fabric Sequence: Maintain sequence of fabric drops; match and level fabric pattern and grain.

Fabric Alignment: Install fabric with patterns or directional weaves so pattern or weave [**aligns with adjacent panels**] [**varies from adjacent panels as indicated on Drawings**].

Generally, retain only one "Fabric Seams" subparagraph below. If retaining more than one, indicate locations of each on Drawings or by inserts.

Fabric Seams: Sewn seams are not permitted.

Fabric Seams: [**Manufacturer's standard**] [**Flat standard**] [**French**] [**Welt-trimmed**] sewn seams, straight and parallel; seam dimensions and locations as indicated on Drawings.

Retain "Core Overlay" subparagraph below if required.

Core Overlay: Evenly stretch over core face and edges; free from puckers, ripples, wrinkles, and sags.

Stretch and secure fabric to frame edges and so frame and frame attachment method are concealed by fabric unless otherwise indicated.

Revise first subparagraph below if specific, measured tension is required or recommended by system manufacturer.

Stretch fabric tightly and square without puckers, ripples, or distortions. Acclimatize and restretch if recommended by stretched-fabric system manufacturer. Repair distortions, wrinkles, and sagging.

Retain "Trim Strip" subparagraph below if a trim strip of contrasting fabric is required along the frame edge of a top-load or side-load frame. Indicate the trim strip fabric and coordinate with fabric-insertion point along frame edge.

Trim Strip: Back-wrap trim strip fabric from the fabric-insertion point over the exposed part of the frame edge where indicated, resulting in a contrasting fabric along the edge.

* + - 1. INSTALLATION TOLERANCES

Revise this article to suit Project and tolerances recommended by stretched-fabric system manufacturers for each system required. Values given below are examples only; tighter tolerance may be required for very visible locations, which should be indicated on Drawings. Consult system manufacturers for recommendations.

* + - * 1. Edge Straightness: Plus or minus 1/16 inch in 48 inches.
        2. Variation from Level and Plumb: Plus or minus 1/16 inch in 48 inches, noncumulative.

Retain first option in "Variation of Joint Width" paragraph below for butted joints between frames; retain second option for reveals between frames or between frame and adjacent construction.

* + - * 1. Variation of Joint Width: Not more than 1/16 inch in 48 inches from [**hairline**] [**reveal line**], noncumulative.
      1. CLEANING
         1. Clip loose threads; remove pills and extraneous materials.
         2. Clean panels on completion of installation to remove dust and other foreign materials according to manufacturer's written instructions.

END OF SECTION 097713