

Commercial Window Treatment Specification

Division 12-Furnishings

Section 122413-Roller Window Shades

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section Includes:
 - 1. Manually operated roller shades [with single rollers] [with dual rollers] [with coupled rollers].
- B. Related Requirements:
 - 1. Section 061053 "Miscellaneous Rough Carpentry" for wood blocking for mounting window treatments and accessories.
 - 2. Section 079200 "Joint Sealants" for sealing the perimeters of installation accessories for light-blocking shades with a sealant.
 - 3. Section 092900 "Gypsum Board" for coordination with installation of brackets and related accessories.
 - 4. Section 095123-Acoustical Tile Ceilings
 - 5. Section 099123-Interior Painting

1.03 ALLOWANCES

- A. Roller window shades are part of [Window-Covering Allowance] <Insert name of allowance>.

1.04 REFERENCES

- A. Reference Standards-Fabrics:
 - 1. GREENGUARD Gold Certified for Low Chemical Emissions, UL.com/GG, UL2818
 - 2. NFPA No. 701-Standard Method of Fire Tests for Flame Propagation of Textiles and Films, 2015 Edition, Small Scale
 - 3. ShadeDefense Antimicrobial Protection-Bacterial and Fungal Resistance per ASTM G21 & ASTM E2180

1.05 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include styles, material descriptions, construction details, dimensions of individual components and profiles, features, finishes, and operating instructions for window treatments.
 - 2. Preparation instructions and recommendations.
 - 3. Storage and handling requirements and recommendations.
 - 4. Mounting Details and installation methods
- B. Shop Drawings: Show fabrication and installation details for window treatments.
- C. Samples for selection: for each type of roller shade:
 - 1. Shade Material: Not less than [4 inches (102 mm)] [6 inches (152 mm)] square. Mark inside face of material if applicable.
 - 2. Roller Shade: Full-size operating unit, not less than 16 inches (400 mm) wide by 36 inches (900 mm) long for each type of roller shade indicated.
 - 3. Installation Accessories: Full-size unit, not less than 6 inches (152 mm) long.
- D. Samples for Verification: for each color and texture specified, submit 2 sets of samples representing actual finishes for aluminum slats at 6 inches (152 mm) long.
 - 1. Include Samples of accessories involving color selection.
- E. Window treatments Schedule: Use same designations indicated on Drawings.

1.06 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Certificates: For each type of fabric band material, signed by product manufacturer.
- C. Product Test Reports: For each type of fabric band material, for tests performed by [manufacturer and witnessed by a qualified testing agency] [a qualified testing agency].

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1.07 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For window treatments to include in maintenance manuals.
- B. Sample warranty document

1.08 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Window treatments: Full-size units equal to 5 percent of quantity installed for each size and color material indicated, but no fewer than [two] <Insert number> units.

1.09 QUALITY ASSURANCE

- A. Installer Qualifications: Fabricator of products.
 - 1. Installer shall be qualified to install specified products by prior experience and approved by Springs Window Fashions LLC.
 - 2. Installer shall be responsible for acceptable installation in accordance with instructions published by Springs Window Fashions LLC.
 - 3. Single Source Requirement: To the greatest extent possible, provide Manual Roller Shades from the same manufacturer for the entire project.
- B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for materials and execution.
 - 1. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver product in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.
- B. Store product in clean, dry areas indoors, in manufacturer's unopened packaging, laid flat to prevent sagging and twisting until ready for installation, in accordance with manufacturer's instructions.
- C. Handling: Protect materials and finish from damage during handling and installation.

1.11 FIELD CONDITIONS

- A. Environmental Limitations: Do not install window treatments until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
- B. Field Measurements: Where window treatments are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1.12 WARRANTY

- A. Shade hardware and Fabrics: Limited Lifetime Warranty per manufacturer standard
- B. Motorized components and accessories: Five-Year Warranty per manufacturer standard

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PART 2-PRODUCTS

2.01 MANUFACTURERS

- A. Subject to compliance with requirements, provide roller window shades by SWFcontract as manufactured by Springs Window Fashions. Other manufacturers offering equivalent products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Draper
 - 2. Hunter Douglas
 - 3. Lutron
 - 4. Mecho
 - 5. SWFcontract
- B. Source Limitations: Obtain roller window shades from single manufacturer.

2.02 MANUALLY OPERATED SHADES WITH SINGLE ROLLERS

- A. Chain-and-Clutch Operating Mechanisms: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated.
 - 1. Bead Chains: [#10 Stainless steel] [Molded plastic bead on nylon cord] <Insert description>.
 - a. Loop Length: [As required to operate full height of window shade] [As indicated on Drawings] <Insert length>.
 - b. Limit Stops: Provide upper and lower [round nickel-plated steel ball stops] [clear plastic, cylindrical ball stop].
 - c. Chain-Retainer Type: Locking-style chain retainer restricts the operation of the chain unless the chain retainer is properly mounted to a fixed surface such as a window frame, sill, or wall. Compliant with American National Standard for Safety of Corded Window Covering Products ANSI A100.1. Non-locking P-Clip is not acceptable.>
 - 1) Color: [White] [Vanilla] [Gray] [Brown] [Black].
 - d. Plastic Bead Chain Color: [White] [Vanilla] [Gray] [Brown] [Black].
 - 2. Spring Lift-Assist Mechanisms (SA): Manufacturer's standard for balancing roller-shade weight and lifting heavy roller shades.
 - a. Provide 6 lb. (2.7 kg) lift assist for shades as recommended by manufacturer.
- B. Rollers: Extruded-aluminum tubes engineered with channel to accept fabric spline. The diameter and wall thickness to be determined by manufacturer based on fabric selection and shade size to provide minimal deflection and optimal performance.
 - 1. Clutch System: Consists of fiberglass filled nylon for wear resistance, smooth operation and corrosion resistance. The clutch is comprised Velvetrol™ internal spring arrangement for a smooth pulling force that locks the shade in any position when operating the control loop. The clutch mechanism is bi-directional and does not require adjustment or lubrication. Clutch to be inserted in roller tube at manufacturing. Clutch size to be selected by manufacturer based on fabric selection and shade size. Clutch size and spring assist upgrade available [SL10] [SL15] [SL20] [SL20 W/ SA] [SL30] [SL30 W/ SA].
 - 2. Roller Drive-End Location: [Right side of shade] [Left side of shade] [As indicated on Drawings] <Insert requirements>.
 - 3. Direction of Shade Roll: [Regular, from back of roller] [Reverse, from front of roller].
 - 4. Fabric-to-Roller Attachment: Removable spline system shall consist of a co-extruded PVC spline heat-welded to the shade fabric and inserted into an engineered channel on the roller tube. The spline system allows for adjustability on-site and ease in changing fabric bands in the field.
 - 5. Idler End: Constructed of high strength, fiberglass filled nylon with spring-loaded pin-end technology for wear resistance, smooth operation, and corrosion resistance.
- C. Mounting Hardware: Brackets, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated.

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1. Thickness; 16 gauge.
2. Material: Stamped steel.
3. Description: [Non-fascia bracket, white powder coated] [Non-Fascia bracket, vanilla powder coated] [Non-Fascia bracket, gray powder coated] [Non-fascia bracket, black powder coated] [Fascia bracket, white powder coated] [Fascia bracket, vanilla powder coated] [Fascia bracket, gray powder coated] [Fascia bracket, black powder coated]
- D. Roller-Coupling Assemblies: Coordinated with operating mechanism and designed to couple up to three inline rollers into a linked shade system that is operable by one roller drive-end assembly. Linking system allows alignment of hem bars without removing shade from brackets by the Infinite Adjuster.
- E. Fabric Bands:
 1. Fabric Band Material: [Light-filtering fabric] [Light-blocking fabric] [PVC free] <Insert requirements>.
 2. Fabric Band Bottom (Hem) Bar: Extruded aluminum.
 - a. Type: Hem bars to be extruded aluminum in weight sufficient for proper shade operation. [Enclosed in heat sealed pocket of fabric band material] [Fabric wrapped with end caps] <Insert description>.
 - b. Color and Finish: [As selected by Architect from manufacturer's full range] <Insert color and finish>.
- F. Installation Accessories:
 1. Front Fascia: Aluminum extrusion that conceals front and underside of roller and operating mechanism and attaches to roller end brackets without exposed fasteners.
 - a. Shape: L-shaped.
 - b. Size: Manufacturer's standard required to conceal roller and fabric band when shade is fully open, but not less than height 3.75 inches (95 mm) by 1.5 inches (38 mm).
 - c. Color and Finish: [White powder coated] [Vanilla powder coated] [Black powder coated] [Clear satin anodized] [Bronze powder coated].
 - d. End cap: to cover exposed ends of fascia
 2. Exposed Pocket: Rectangular, extruded aluminum 3-sided enclosure covering front, top and back, with optional end caps, and optional removable bottom closure plate.
 - a. Width 4.75 inches (121 mm) by Height 5 inches (127 mm).
 - b. End cap: to cover exposed ends of pockets.
 - c. Color and Finish: [White powder coated] [Clear satin anodized] [Bronze powder coated].
 3. Recessed Pocket: Rectangular, extruded aluminum enclosure designed for recessed ceiling installation; with front, top, and back formed as one piece, optional end caps, and optional removable bottom closure plate.
 - a. Width 4.75 inches (121 mm) by Height 5 inches (127 mm) with 0.875 inch (22 mm) tile support.
 - b. Color and Finish: [White powder coated] [Clear satin anodized] [Bronze powder coated].
 4. Closure Plate and Closure Mount: Removable 2 inch (51 mm) or 3 inch (76 mm) closure plate designed for installation at bottom of site-constructed ceiling recess or pocket and for snap-in attachment to closure mount without fasteners.
 - a. Closure-Plate Width: [As indicated on Drawings] [2 inches (51 mm)] [3 inches (76 mm)] <Insert dimension>.
 - b. Closure Mount: [With acoustical tile support] [Without acoustical tile support].
 - c. Color and Finish: [White powder coated] [Clear satin anodized] [Bronze powder coated].
 5. Blackout Channels: Extruded aluminum channels with two piece snap design to conceal fasteners. Provide synthetic pile inserts designed to eliminate light gaps at sides of shades.
 - a. Side Size: 2 inch (51 mm) by 1 inch (25 mm) to eliminate light gaps at sides of shades.
 - b. Center Size: 4 inch (102 mm) by 1 inch (25 mm) to eliminate light gaps between adjoining shades.
 - c. Sill Size: 2 inch (51 mm) by 1 inch (25 mm) to eliminate light gaps at bottom edge of shades.

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- d. Color and Finish: [White powder coated] [Vanilla powder coated] [Black powder coated] [Clear satin anodized] [Bronze powder coated].

2.3 MANUALLY OPERATED SHADES WITH DUAL ROLLERS

- A. Chain-and-Clutch Operating Mechanisms: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated.
 - 1. Bead Chains: [No. 10 Stainless steel] [Molded plastic bead on nylon cord] <Insert description>.
 - a. Loop Length: [As required to operate full height of window shade] [As indicated on Drawings] <Insert length>.
 - b. Limit Stops: Provide upper and lower [round nickel-plated steel ball stops] [clear plastic, cylindrical ball stops].
 - c. Chain-Retainer Type: Locking-style chain retainer restricts the operation of the chain unless the chain retainer is properly mounted to a fixed surface such as a window frame, sill, or wall. Compliant with American National Standard for Safety of Corded Window Covering Products ANSI A100.1. Non-Locking P-Clip is not acceptable.
 - 1) Color: [White] [Vanilla] [Gray] [Brown] [Black].
 - d. Plastic Bead Chain Color: [White] [Vanilla] [Gray] [Brown] [Black].
 - 2. Spring Lift-Assist Mechanisms (SA): Manufacturer's standard for balancing roller-shade weight and lifting heavy roller shades.
 - a. Provide 6 lb. (2.7 kg) lift assist for shades as recommended by manufacturer.
- B. Rollers: Extruded aluminum tubes engineered with a channel to accept fabric spline. The diameter and wall thickness to be determined by manufacturer based on fabric selection and shade size to provide minimal deflection and optimal performance.
 - 1. Dual-Roller Mounting Configuration: Offset, outside roller over and inside roller under.
 - a. Drive-End Location: [Right side of front shade, right side of back shade] [Left side of front shade, left side of back shade] [As indicated on Drawings] <Insert requirements>.
 - b. Direction of Fabric Band Roll: Regular, from back of roller.
 - 2. Fabric Band-to-Roller Attachment: Removable spline system shall consist of a co-extruded PVC spline heat-welded to the shade fabric and inserted into an engineered channel on the roller tube. The spline system allows for adjustability on-site and ease in changing fabric bands in the field.
- C. Mounting Hardware: Brackets, corrosion resistant and compatible with roller mounting configuration, roller assemblies, operating mechanisms, installation accessories, and installation locations and conditions indicated.
 - 1. Description: [Non-fascia bracket, white powder coated] [Non-fascia bracket, black powder coated] [Fascia bracket, white powder coated] [Fascia bracket, black powder coated].
- D. Front Fabric Bands:
 - 1. Fabric Band Material: [Light-filtering fabric] <Insert requirements>.
 - 2. Fabric Band Bottom (Hem) Bar: Extruded aluminum.
 - a. Type: Hem bars to be extruded aluminum in weight sufficient for proper shade operation. [Enclosed in heat-sealed pocket of fabric band material] [Fabric wrapped with end caps] <Insert description>.
 - b. Color and Finish: [As selected by Architect from manufacturer's full range] <Insert color and finish>.
- E. Back Fabric Bands:
 - 1. Fabric Band Material: [Light-blocking fabric] <Insert requirements>.
 - 2. Fabric Band Bottom (Hem) Bar: Extruded aluminum.
 - a. Type: Hem bars to be extruded aluminum in weight sufficient for proper shade operation. [Enclosed in heat-sealed pocket of fabric band material] [Fabric wrapped with end caps] <Insert description>.
 - b. Color and Finish: [As selected by Architect from manufacturer's full range] <Insert color and finish>.
- F. Installation Accessories:

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1. 1. Front Fascia: Aluminum extrusion that conceals front and underside of roller and operating mechanism and attaches to roller end brackets without exposed fasteners.
 - a. Shape: L-shaped.
 - b. Size: Manufacturer's standard required to conceal roller and fabric band when shade is fully open, but not less than height 7.5 inches (191 mm) by 2.25 inches (57 mm).
 - c. Color and Finish: [White powder coated] [Vanilla powder coated] [Black powder coated] [Clear satin anodized] [Bronze powder coated].
 - d. End cap: to cover exposed ends of fascia
2. Exposed Pocket: Rectangular, extruded aluminum 3-sided enclosure covering front, top and back, with optional end caps, and optional removable bottom closure plate.
 - a. Width 7.5 inches (191 mm) by Height 8 inches (203 mm).
 - b. End cap: to cover exposed ends of pockets.
 - c. Color and Finish: [White powder coated]
3. Recessed Pocket: Rectangular, extruded aluminum enclosure designed for recessed ceiling installation; with front, top, and back formed as one piece, optional end caps, and optional removable bottom closure plate.
 - a. Width 7.5 inches (191 mm) by Height 8 inches (203 mm) with 1.25 inch (32 mm) tile support.
 - b. Color and Finish: [White powder coated].
4. Closure Plate and Closure Mount: Removable 2 inch (51 mm) or 3 inch (76 mm) closure plate designed for installation at bottom of site-constructed ceiling recess or pocket and for snap-in attachment to closure mount without fasteners.
 - a. Closure-Plate Width: [As indicated on Drawings] [2 inches (51 mm)] [3 inches (76 mm)] <Insert dimension>.
 - b. Closure Mount: [With acoustical tile support] [Without acoustical tile support].
 - c. Color and Finish: [White powder coated] [Clear satin anodized] [Bronze powder coated].
5. Blackout Channels: Extruded aluminum channels with two piece snap design to conceal fasteners. Provide synthetic pile inserts designed to eliminate light gaps at sides of shades.
 - a. Side Size: 2 inch (51 mm) by 1 inch (25 mm) to eliminate light gaps at sides of shades.
 - b. Center Size: 4 inch (102 mm) by 1 inch (25 mm) to eliminate light gaps between adjoining shades.
 - c. Sill Size: 2 inch (51 mm) by 1 inch (25 mm) to eliminate light gaps at bottom edge of shades.
 - d. Color and Finish: [White powder coated] [Vanilla powder coated] [Black powder coated] [Clear satin anodized] [Bronze powder coated].

2.4 FABRIC BAND MATERIALS

- A. Fabric Band Material Flame-Resistance Rating: Comply with NFPA 701. Testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- B. SWFcontract Crosshatch S Series Light-Filtering Fabric: Woven fabric, stain and fade resistant.
 1. Source: Springs Window Fashions.
 2. Type: PVC-coated polyester, polyester.
 3. Weave: 2x2 Thin Basketweave.
 4. Roll Width: S100, S33, S500: 126 inches (3200 mm) S1000: 118 inches (2997 mm).
 5. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: [S100 - 1 percent] [S300 - 3 percent] [S500 - 5 percent] [S1000 - 10 percent].
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- C. SWFcontract Crosshatch A Series Light-Filtering Fabric: Woven fabric, stain and fade resistant.
 1. Source: Springs Window Fashions.
 2. Type: Woven polyester and PVC-coated polyester.

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3. Weave: 2x2 Thin Basketweave.
 4. Roll Width: 98 inches (2489 mm).
 5. Orientation on Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: [A1000 – 1 percent] [A300 - 3 percent] [A500 - 5 percent].
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- D. SWFcontract Crosshatch R Series Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions.
 2. Type: PVC-coated polyester, polyester.
 3. Weave: 2x2 Thin Basketweave.
 4. Roll Width: 126 inches (3200 mm).
 5. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: [R100 – 1 percent] [R300 – 3percent] [R500 – 5 percent].
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- E. SWFcontract Summit Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions.
 2. Type: PVC-coated polyester, polyester.
 3. Weave: 2x2 Thick Basketweave.
 4. Roll Width: 118inches (2997 mm).
 5. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: [U100 - 1 percent] [U300 - 3 percent] [U500 - 5 percent].
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- F. SWFcontract Double-Take Reversible Twill Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions.
 2. Type: Woven polyester and PVC-coated polyester.
 3. Weave: Reversible twill.
 4. Roll Width: 98 inches (2489 mm).
 5. Orientation on Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: [T100 - 1 percent] [T300 - 3 percent] [T500 - 5 percent].
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- G. SWFcontract Compass Reversible Twill Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions.
 2. Type: Woven polyester and PVC-coated polyester.
 3. Weave: Reversible twill.
 4. Roll Width: 126 inches (3200 mm).
 5. Orientation on Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: [C100 - 1 percent] [C300 - 3 percent] [C500 - 5 percent].
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- H. SWFcontract Latitude X100 Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions.
 2. Type: PVC-coated polyester, polyester.
 3. Weave: 1x1 Vertical Plain Weave.
 4. Roll Width: 118 inches (2997 mm).

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5. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: 1 percent.
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- I. SWFcontract Aspect Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions
 2. Type: PVC-coated polyester, polyester.
 3. Weave: Jacquard
 4. Roll Width: 98 inches (2489 mm).
 5. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: 4 percent.
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- J. SWFcontract Vision Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions
 2. Type: PVC-coated polyester, polyester.
 3. Weave: Jacquard
 4. Roll Width: 98 inches (2489 mm).
 5. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: 1 percent.
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- K. SWFcontract Zenith Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions.
 2. Type: PVC-coated polyester, polyester.
 3. Weave: Jacquard
 4. Roll Width: 98 inches (2489 mm).
 5. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: 4 percent.
 7. Color: [As indicated on Drawings] [Match Architect's sample] [As selected by Architect from manufacturer's full range] <Insert color>
- L. SWFcontract Factor M1400 Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions
 2. Type: 100% Polyester.
 3. Weave: Jacquard
 4. Roll Width: 98 inches (2489 mm).
 5. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
 6. Openness Factor: 14 percent.
 7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.
- M. SWFcontract Sheer Lines Light-Filtering Fabric: Woven fabric, stain and fade resistant.
1. Source: Springs Window Fashions.
 2. Type: 100% Polyester.
 3. Weave: Hospitality Sheer.
 4. Roll Width: 94.5 inches (2400 mm).

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5. Orientation of Fabric Band: [Vertical] [As indicated on Drawings] <Insert requirements>.
6. Openness Factor: 14 percent.
7. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.

N. SWFcontract Nightfall Blackout Fabric, Light-Blocking Fabric: Opaque fabric, stain and fade resistant.

1. Source: Springs Window Fashions.
2. Type: Blackout, PVC-coated fiberglass with bonded PVC film.
3. Roll Width: 72 inches (1829 mm).
4. Orientation on Fiber Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
5. Features: [Washable] [Antistatic treatment] <Insert requirements>.
6. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.

O. SWFcontract Enterprise Blackout Fabric, Light-Blocking Fabric: Opaque fabric, stain and fade resistant.

1. Source: Springs Window Fashions.
2. Type: Blackout, Polyester, PVC free.
3. Roll Width: 122 inches (3099 mm).
4. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
5. Features: [Washable] [Antistatic treatment] <Insert requirements>.
6. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.

P. SWFcontract Conceal Blackout Fabric, Light-Blocking Fabric: Opaque fabric, stain and fade resistant.

1. Source: Springs Window Fashions.
2. Type: Blackout, 100% Polyester with foam backing, PVC free.
3. Roll Width: 126 inches (3200 mm).
4. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
5. Features: [Washable] [Antistatic treatment] <Insert requirements>.
6. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.

Q. SWFcontract Parallel Blackout Fabric, Light-Blocking Fabric: Opaque fabric, stain and fade resistant.

1. Source: Springs Window Fashions.
2. Type: Blackout, 2x2 PVC coated Polyester, Polyester Weave Pattern with Acrylic Foam Backing.
3. Roll Width: 118 inches (2997 mm).
4. Orientation of Fabric Band: [Vertical] [Railroaded] [As indicated on Drawings] <Insert requirements>.
5. Features: [Washable] [Antistatic treatment] <Insert requirements>.
6. Color: [As indicated on Drawings] [As selected by Architect from manufacturer's full range] <Insert color>.

2.5 ROLLER-SHADE FABRICATION

- A. Product Safety Standard: Fabricate roller shades to comply with ANSI - WCMA A 100.1, including requirements for flexible, chain-loop devices; lead content of components; and warning labels.
- B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 deg F (23 deg C):
 1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which shade is installed, plus or minus 1/8 inch (3.1 mm). Length equal to head-to-sill or -floor dimension of opening in which shade is installed less 1/4 inch (6 mm), plus or minus 1/8 inch (3.1 mm).

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2. Outside of Jamb Installation: Width and length as indicated, with terminations between shades of end-to-end installations at centerlines of mullion or other defined vertical separations between openings.
- C. Fabric Band Fabrication: Fabricate fabric bands without battens or seams to extent possible except as follows:
 1. Railroaded Materials: Railroad material where material roll width is less than the required width of fabric band and where indicated. Provide battens and seams as required by railroaded material to produce fabric bands with full roll-width panel(s) plus, if required, one partial roll-width panel located at top of fabric band.

PART 3-EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, [accurate locations of connections to building electrical system,] and other conditions affecting performance of the work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 ROLLER SHADES INSTALLATION

- A. Install roller shades level, plumb, and aligned with adjacent units per manufacturer's written instructions.
 1. Opaque Fabric Bands: Located so fabric band is not closer than [2 inches (51 mm)] <Insert dimension> to interior face of glass. Allow clearances for window operation hardware.
- B. Electrical Connections: Connect motor-operated roller shades to building electrical system.

3.03 ADJUSTING

- A. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout the entire operational range.

3.04 CLEANING AND PROTECTION

- A. Clean surfaces after installation, per manufacturer's written instructions. Do not use cleaning methods involving heat, bleach, abrasives, or solvents.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, ensuring that window treatments are without damage or deterioration at time of Substantial Completion.
- C. Replace damaged window treatments that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.

3.05 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain window treatments.

END OF SECTION 122413