FUSION ST 60 LOW VOLTAGE
Roller Shades

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Roller window shades.
1. Electrically Encoded Motorized Roller Shades

1.02 RELATED REQUIREMENTS
A. Section 01270 - Unit Prices: Descriptions of unit price items, administrative requirements.
B. Section 01230 - Alternates: Descriptions of items, administrative requirements.
C. Section 01300 - Administrative Requirements: Submittal procedures, project meetings, progress schedules and documentation, reports, coordination.
D. Section 01355 - LEED Certification Procedures.
E. Section 01600 - Product Requirements: Fundamental product requirements, substitutions and product options, delivery, storage, and handling.
F. Section 01700 - Execution Requirements: Examination, preparation, and general installation procedures; pre-installation meetings; cutting and patching; cleaning and protection; starting of systems; demonstration and instruction.

1.03 UNIT PRICES
A. See Section 01270 - Unit Prices, for additional unit price requirements.
B. Provide the work under the unit price method.

1.05 REFERENCE STANDARDS
A. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2007.
B. ASTM G 21- Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
C. NFPA 70 - National Electrical Code; National Fire Protection Association; 2008.
D. NFPA 701-99 - Fire Tests for Flame-Resistant Textiles and Films.

1.06 ADMINISTRATIVE REQUIREMENTS
A. Coordination: Coordinate the installation of Roller Window Shades with size, location and installation of windows, curtain walls and shade pockets.
B. Pre-installation Meeting: Conduct a pre-installation meeting one week prior to the start of the work of this section; require attendance by all affected installers.
C. Sequencing: Ensure that utility connections are achieved in an orderly and expeditious manner.

1.07 SUBMITTALS
A. See Section 01300 - Administrative Requirements, for submittal procedures.
B. Product Data: Manufacturers data sheets on each product to be used, including:

C. Styles, material descriptions, dimensions of individual components, profiles, features, finishes and operating instructions.
D. Mounting details and installation methods.
E. Typical wiring diagrams including integration of motor controllers with building management system, audiovisual and lighting control systems as applicable.
F. Shop Drawings: Indicate plans, elevations, sections, product details, installation details, operational clearances, wiring diagrams and relationship to adjacent work.
G. Selection Samples: For each finish product specified, one set of shade cloth options and aluminum finish color samples representing manufacturers' full range of available colors and patterns.
H. Verification Samples: For each finish product specified, one complete set of shade components, unassembled, demonstrating compliance with specified requirements. Shade cloth sample and aluminum finish sample as selected. Mark face of material to indicate interior faces.
I. Manufacturers Qualification Statement.
J. Certificate: Certify that products of this section meet or exceed specified requirements.
K. Maintenance Data: Methods for maintaining roller shades, precautions regarding cleaning materials and methods, instructions for operating hardware and controls.

1.08 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.
B. Verify Field Measurements prior to shop fabrication.
C. Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose specified and indicated.
D. Anti-Microbial Characteristics: No Growth per ASTM G 21 results for fungi ATCC9642, ATCC 9644 and ATCC9645.

1.09 MOCK-UP
A. Provide a mock-up of one roller shade assembly for evaluation of mounting, appearance, operation and accessories.
1. Locate mock-up in window designated by Architect.
2. Do not proceed with remaining work until, mock-up is accepted by Architect

1.10 DELIVERY, STORAGE, AND HANDLING
A. Deliver shades to project site in protective wrapping.
B. Label each shade with location, rotation number, size and shade cloth style.

1.11 FIELD CONDITIONS
A. Ambient Conditions: Do not install shades until windows are installed and glazed and wet work is completed.

1.12 WARRANTY
A. See Section 01780 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a one-year period after Date of Substantial Completion.
C. Provide five-year manufacturer warranty for roller shade motors and motor control systems.

PART 2 PRODUCTS

2.0 PRODUCT
DFB Sales, Inc., 21-07 Borden Avenue, Long Island City, NY 11101, 718.729.8310, 800.433.4546, DFB ST 60 Fusion Low Voltage roller shade: email: Sales@dfbsales.com, Web Site: www.dfbsales.com.----------Substitutions: Not permitted.

2.01 SYSTEM REQUIREMENTS
A. Silent Technology ST60 precision- electronical controlled encoded 24 Volt motor housed inside a roller tube, controlling the shade movement exactly.
B. Audible noise: Maximum 38 Dba measured 3 feet from roller shade unit, system does have any extra audible noise when starting and stopping.
C. Allow for a maximum of 255 roller shades including skylight shades & draperies to be operate before adding a sub group controller
D. Preprogramming shades, groups of shades or adding a new group shades can be done at any time
E Roller Shade speed moves at 28 revolutions per minute
F. Built in memory so encoded motor, power panel and keypad will not be affected with the loss of power
G. Integrate directly with ST skylight shades, ST roman shades and ST drapery tracks incorporating any Fusion components
H. Systems with multiple Fusion ST motors are synchronized to start, stop, and move in unison. Creating perfect shade alignment
I. Fusion smart ST60 panel to provide power and data to motors, with interface ports to, multiple Fusion ST60 power panels, AV, BMS, lighting controls and Horizon Solar Tracking system

2.02- GROUPING
A. Keypads and RS 232 , RS 485 or contact closure inputs can control any ST60 shades without separate group controller.
B. System groups and subgroups configured at point of control without rewiring
C. Multiple ST systems can be linked from one office, full floor or entire building at any time.

2.03. INTEGRATION
A. ST60 can integrate seamlessly with just about all the major lighting controls systems including Crestron & Lutron.
B. Contact closure, RS232, RS485 and Ethernet interfaces available to interface with audio/visual equipment and security systems.

2.04. SYSTEMS CONTROL

A. ST 60 keypads can be used or via our system lighting control Link most lighting controls switches or conference AV can be used.
B- Horizon Solar tracking system (optional)
C. Presets keypads (5 or 3) push button with manual up/down and stop permitted.

3.0 MOTORIZED ROLLER COMPONENTS

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A. Mounting Brackets: .125 inch thick galvanized steel. The motor-end bracket shall have a nylon swivel ball to ensure non-binding rotation.
B The tube shall be 2-1/4 inch in O. D. extruded aluminum with .080 inch wall thickness, having no more than .010 inch deflection over 12 feet for a 10 feet high shade. Optional 3-1/2 inch diameter tube with maximum length of 21 feet.
C. Center Support: Extruded aluminum main housing with two (2) height-adjustment screws to prevent vibration and a 3/8 inch U.H.M.W. support bushing. Connector between shades 1/2“ threaded steel drive shaft. Maximum space between shades shall be 3/4”.
D. Hem/Hem bar: The hem bar shall be extruded aluminum weighing 1/4 lb per linear foot and sit behind two thicknesses of shade cloth. The hem shall be triple thick with an electronically welded seam.
E. Side/Sill Channels (optional): A component feature produced in .050 inch thick extruded aluminum. The two-piece channel design shall eliminate visible fasteners.
F. Finishes: Aluminum components, fascias, side channels and sill channels are available in standard colors: White Enamel, Bronze or anodized clear aluminum. Bracket finishes are available in White, Brown or Grey enamel. Painted finishes on aluminum components are baked enamel. Custom colors can be submitted.
G. Ceiling Pockets (optional): They shall be made of .070” thick extruded aluminum in a style chosen for the job. Outside dimensions are 4-1/2 inches square.

3.01 BLACKOUT SHADE SYSTEM

A. Add to motorized roller window shades to provide 100% outside light omission:
B. Light-blocking inserts on side and sill channels.
C. End caps and bottom closures with light block inserts on head box. Inside surfaces shall be painted flat black.

SHADECLOTH

A. Performance: The shade cloth shall hang flat without defection or distortion. The edges of the shade band shall be cut square to insure true tracking of the shade cloth and cut clean so that the core yarn is not exposed.
B. Flame Retardance: The shade cloth shall pass the California Flame Text Title 19, Section 1273.3, medium scale test for interior fabric and shall pass NFPA 701-99 Flame Test.
C. Sol-R-Control Shade cloth:

1. Series: _____
2. Color: _____
3. Openness: _____

4.0 EXECUTION

4.01 EXAMINATION

A. Verification of Conditions: Verify that windows are installed and glazed, and that support blocking and substrates are level and ready to receive roller window shade installation.

B. Installation shall not commence until all job conditions are suitable.

4.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Fastening: Install shade assemblies according to manufacturer's instructions. Each bracket shall receive two screw fasteners. Shades shall be set in place, and leveled by a leveling screw.

4.02 FIELD QUALITY CONTROL

A. Perform field inspection and testing in accordance with Section 01400.

B. Inspect for smooth, quiet operation.

4.03 ADJUSTING

A. Adjust roller operation for smooth operation.

4.04 CLEANING

A. Clean shade cloth if required for acceptance.