## Part 1 GENERAL

1.1 GENERAL REQUIREMENTS

1. Division One - General Requirements is a part of this section and shall apply as if repeated here.

1.2 DESCRIPTION

1. Work included: Provide motorized rolling shade systems at all exterior curtain walls unless otherwise noted. Provide all components as needed for a complete and proper installation.

1.3 RELATED WORK

1. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
2. Masonry - Sections
3. Wood Blocking - Section 06 10 00
4. Finish Carpentry - Section 06 20 00
5. Aluminum Window Curtain Wall System - Section 08 44 26
6. Electrical - Division 26

1.4 QUALITY ASSURANCE

1. Use adequate numbers of skilled workers who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.5 SUBMITTALS

1. Product Data: Within 60 calendar days after the General Contractor has received the Owner's Notice to Proceed, submit:

    1. Materials list of items proposed to be provided under this Section.
    2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
    3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage and interface of the work of this Section with the work of adjacent trades.
    4. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the work.

2. Construct one complete window shade with attachments and accessories for approval by the Architect.

1.6 WARRANTY

1. Three year written warranty against mechanical and fabric failure (including fabric fading) under normal conditions.

1.7 ACCEPTANCE

1. All manual and motorized shades remain the property of the supplier until accepted in place by the Architect.

**Part 2 PRODUCTS**

1. **Motorized Shade System (MOS):** Mecho ElectroShade motorized shading system with SolarTrac automated shading system. Drawings based on Sun Project Canada Inc. (905-660-3117). Approved equal product/manufacturer is Solarfective Products Ltd.

2. Motorized Sunshades locations: Elevator Vestibule 110.

   1. Electroshade Motor System

      .1 Switches: Internal limit switches are adjusted by two external thumbscrews to allow exact setting of travel in both the raised and lowered positions. Micro switches provide circuit braking at the end of the run. The limit-switch setting cannot be disturbed by the action of the roller tube.

      .2 Brake: A soleroid activated disc brake mechanism stops and holds in any position. The brake automatically disengages when the motor is operating.

      .3 Motor: An asynchronous motor with built-in reversible capacitor start-and-run is made to be operated with 95 to 125 v. A.C. at 60 hz., single phase, temperature Class-A (maximum temperature rating of 140 degrees C.), thermally protected, totally enclosed, maintenance free with locking disconnect plug assembly furnished with each operator.

      .4 Gear Box: Three levels of satellite gears are provided for load distribution (planetary gears) and machined to close tolerance of tempered steel.

      .5 Installation: A single pin locks the drive end of the motor to the tube. A notched section in the tube turns the ring which counts the turns and activates the limit switch. To interchange motors, the pin is pressed out of the tube and the motor slides out.

      .6 Sizes: The motors are available in torques of 35-435 in lbs. (lifting capacity), 12-30 r.p.m. speed, to meet specified requirements and shall not exceed 60 mm in diameter.

      .7 Warranty: The manufacturer provides warranty that the motor is free of manufacturing defects for three (3) years from the date of installation. This warranty is void if the products have been improperly installed or subjected to improper care.

   2. Hardware and Accessories Required for a Total Integrated System

.1 Shade Roller: Extruded aluminum tube, 6063-ST6 alloy, 2.55 in. OD with internal keyway to receive tubular motor. The tube is extruded with two fabric-mounting channels designed so that the shade cloth does not disengage from the tube itself.

.2 Mounting Spline: Extruded vinyl with asymmetrical locking channels and embossed fabric guide for use with 2.55 in. OD tube. Spline has sufficient capacity to hold shade and additional weight without disengaging from the tube.

.3 End Brackets: Consist of 1/8" in. thick sheet steel. Wall, jamb or ceiling mounted as required and permanently installed.

.4 Centre Support Brackets: supplied to meet span or weight requirements. Ceiling or wall mounted.

.5 Weights: Mill-finished aluminum, flat bars, single lengths for each shade panel.

.6 Fascia: Extruded aluminum 6063T5 with clear anodized finish. Used for surface mounted applications at east wall cafetorium 128. Snap on with concealed fastenings that hide the bracket assembly and appears to be a continuous unit when mounted side to side.

.7 Recessed Housing: is specifically designed for acoustical or plaster ceilings with removable closure plate for access to the recessed and concealed roller system.

.8 Finishes: All exposed aluminum parts have a clear anodized finish. Steel parts are either cadmium plated, satin finished or have been bonderized prior to painting with a baked enamel finish.

.9 Exterior hembar shall be rectangular 6 mm x 37 mm, with internal grooves to accommodate a fabric guide carrier at each end.

.10 Side channel shall be a heavy duty two piece Snap-On 75 x 22 side channel for inside or frontal mount.

.11 Fabric shall be hot laser cut and reinforced at the edges with a high frequency thermoweld seal. Fabric is reinforced with heat sealed spring tempered stainless steel batten stiffeners positioned approximately every 900 mm insuring that fabric not escape or be pulled out of the side channel.

3. Blackout Shade Fabric: N/A. ~~Lightproof shades to be 100% opaque blackout flame retardant. Architect to choose colour when shop drawings are submitted. Seams, if required, shall be equally spaced vertically to form material in equal widths.~~

4. Automatic Operator: 3 position wireless remote control switch with "up", "down", and "stop" control. Mount operator in shade frame with wall-mounted wireless remote

control located where indicated. Include all components for proper unit operation. Control each shade, or all shades in one room from individual wireless remote control.

5. Sunshade Fabric: 5% open weave flame retardant. Architect to choose colour when shop drawings are submitted. Seams, if required, shall be equally spaced vertically to form material in equal widths.

**Part 3 EXECUTION**

3.1 SURFACE CONDITIONS

1. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 INSTALLATION

1. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interfaced with the work of this Section.

2. Install the work of this section in strict accordance with the original design, the approved Shop Drawings, pertinent requirements of government agencies having jurisdiction, and the manufacturer's recommended installation procedures as approved by the Architect, anchoring all components firmly into position for long life under hard use.

3. Install the work plumb, level, and in proper operating condition.

4. Upon completion of the installation, put each operating component through at least five complete cycles, adjusting as required to achieve optimum operation and complete blackout at all edges (at blackout locations).

5. Touchup scratches and blemishes to be completely invisible to the unaided eye from a distance of five feet (1500 mm), or replace item.

End of Section 12 52 20