

Guide Specifications – Window Treatment

Division 12 – Furnishings

Section 12552.03 – Motorized Roller Shades

1.0 General

1.1 Related sections:

- 1.1.1 Section 06100 Rough Carpentry
- 1.1.2 Section 08520 Aluminum Windows
- 1.1.3 Section 08920 Glazed Aluminum Curtain Wall
- 1.1.4 Section 09250 Gypsum Board
- 1.1.5 Section 09510 Acoustic Ceilings
- 1.1.6 Section 16000 Electrical

Products Supplied by this section but installed by other trades
Specifier to co-ordinate this work with designated trades in other sections of these project specifications

- 1.1.7 Aluminum shade pockets to be mounted to either curtain wall system or suitable structure.
- 1.1.8 Electrical control components to enable control functions as specified in this section.

1.2 Summary:

- 1.2.1 Provide electrically operated exterior roller shade with related hardware to complete the installation to the following locations: Specifier to provide scope of work.
- 1.2.2 Roller shades shall be mounted: Specifier select applicable position: between the vertical window framing, on the face of the window framing to the underside of the window framing/ ceiling or bulkhead, In an aluminum pocket provided in this section.

1.3 Quality Assurance

- 1.3.1 All bidders submitting bids on the work of this section shall meet or exceed the quality of materials, components and assemblies specified herein Bidders who do not comply with these performance specifications shall refrain from submitting a bid.
- 1.3.2 Alternate Bids, Alternative Products shall be submitted to the Design Consultant 10 days prior to tender closing. Alternative Bids can only be submitted as an alternate Bid to the specified base Bid Product. Manufacturers that meet the

- performance criteria and are approved, as an alternate by the Design Consultant shall be listed in an addendum.
- 1.3.3 All work specified under this section supplied and installed entirely by one Subcontractor using his own forces.
 - 1.3.4 Manufacturer shall have a minimum of fifteen (15) years experience in the manufacture of specified shading system.
 - 1.3.5 Shades to be installed by a firm, with a minimum of ten (10) years experience, specializing in the installation of shading systems.
 - 1.3.6 Conform to applicable Building Code and Local Authority having jurisdiction and all other standards noted.
 - 1.3.7 Install one complete operating sample with accessories on site. Review the installation before proceeding with the remainder of the work. Adjust sample installation to gain acceptance. Accepted work may form part of the final installation.

1.4 Submittals and Test Reports

- 1.4.1 Submit fully detailed drawings prepared in AutoCAD 2002/2004 format showing all components, finishes and perimeter construction conditions, installation, wiring and controls, and all applicable dimensions according to Section 01300 - Submittals.
- 1.4.2 Submit duplicate samples of the specified fabric / shade cloth of each color and texture minimum size 8.5@ x 11@ (215mm x 280mm) for review.
- 1.4.3 Submit duplicate samples of the specified sections of fascia, pocket, trim, roller tube, hembar, operating hardware, brackets, and side channel for review as required.
- 1.4.4 Submit duplicate copies of compliance to the following tests
 - A. Fire tests: NFPA 701-89 SM, NFPA 701-89 LG Flat, NFPA 701-96 TM#1
 - B. Toxicity: UPITT
 - C. Fungal Resistance: ASTM G 21
 - D. Bacterial Resistance: ASTM G 22
- 1.4.5 Electric shade motors and all electronic control equipment supplied by this section shall comply with CSA/UR and ULC/UL standards. Copies of compliance available for submission upon request.
- 1.4.6 Submit duplicate copies of operating and maintenance instructions including, name and telephone number of local service company.

1.5 Inspection / Preparation

- 1.5.1 Verify that all blocking and framing necessary to carry shade assembly hardware is properly installed and secure.
- 1.5.2 Verify that electrical and control wiring is completed (refer to Division 16).
- 1.5.3 Notify Owner in writing of any deficiencies in the work of other trades that would affect the window treatment system.
- 1.5.4 Make accurate measurements at the site before fabrication. Check layout of glazing framing sections, spans, and loading capabilities.

1.6 Delivery Storage and Handling:

- 1.6.1 Do not deliver to site until areas to receive shades are completely finished.
- 1.6.2 Deliver materials in original protective wrappings or containers, with manufacturer's labels and sealed intact.
- 1.6.3 Handle and store materials according to manufacturer's recommendations protecting materials and finishes from damages, marring of finishes or soiling.

1.7 Warrantee

- 1.7.1 Provide a limited manufacturers warrantee from the Date of Substantial Completion, covering the following:
 - A. Shade Hardware including electric motors: Two (2) years
 - B. Electronic Control Equipment: Five (5) Years
 - C. Fabrics / Shade Cloth: Two (2) Years
 - D. Aluminum and steel coatings: Two (2) Years
- 1.7.2 Provide a limited installation warranty from Date of Substantial Completion, covering a period of one (1) year.
- 1.7.3 Submit standard manufacturer's maintenance contract for review by Owner.

2.0 Products

2.1 Manufacturer:

- 2.1.1 Nysan Shading Systems Ltd. - #1, 115 - 28th Street S.E. Calgary AB T2A 5K4 Phone: 403.204.8675 Fax: 403.204.8676 Email: sales@nysan.com Website: <http://www.nysan.com> Specifier: Please note when approving and alternate manufacturer please ensure that the performance criteria set forth in these specifications (quality assurance 1.3.1 and 1.3.2) are met. This will ensure a fair price comparison and will not create a disadvantage for the

specified manufacturer. Alternative Bids can only be submitted as an alternate Bid to the specified base Bid Product. Manufacturers that meet the performance criteria and are approved as an alternate by the Design Consultant shall be listed in the addendum

2.2 Hardware: Specifier please note that this section required editing to meet specific project requirements. All items not required should be deleted.

2.2.1 Shade Mounting Brackets

- A. All shade brackets shall be shipped completely assembled from the factory.
- B. Mounting assembly shall allow for continuous front or back-roll fascia across multiple shades without exposed fasteners.
- C. Shade roller tube shall be removable from mounting assembly without hardware removal.
- D. All non-metal components shall be self-lubricating.
- E. Shade hardware system shall provide for field adjustment or component replacement without removal of brackets, regardless of mounting location.
- F. Shade hardware shall allow for a bottom-up or a sideways roller tube installation and removal without removing brackets

2.2.2 Electrical Shade Motors

- A. Shade motor located inside the extruded aluminum roller tube with appropriate adaptors to allow for a smooth operation. Lifting capacity with a 30% safety ratio and not exceeding 30DB. *Specifier include this option if required by your local code:* Shade motor shall be equipped with a disconnect plug at motor lead.
- B. Shade motor shall be an asynchronous unit, start and run, single phase type (125V - 60 Hz or 230V - 50 Hz), thermally protected, brush-less motor, permanently lubricated bearings and gearbox manufactured from non corrosive metal gears containing a 3 phase planetary gear reducer. Non-metal planetary gearboxes will not be acceptable.
- C. Shade motor shall contain a conical steel disk brake allowing no slippage under high torque

- D. Shade motor shall be fitted with solid steel adjustable drive extensions, rectangular bar shaped for drive and torque transfer to single or multiple coupled extruded roller tubes.
- E. Motor speed shall range from 12 to 30 RPM and draw 1.1 to 3.4 Amps as selected by the shade manufacturer for proper system operation. Motor lead shall be plenum rated quality.
- F. Shade motor shall be equipped with externally located limits for raised and lowered positions, preventing over winding of the fabric/shade cloth.
- G. Include all components for proper unit operation.

2.2.3 Motor Control System: **(Option 1)** Specifier please see document labeled Std motor control specifications.doc

2.2.4 Intelligent Motor Control System: **(Option 2)** Specifier please see document labeled Matrix Motor control specification.doc

Roller Tube assembly:

- A. Top roller tube of one piece extruded aluminium tube, with 10 micron thick clear anodised coating, at the manufacturers recommended engineered diameter and wall thickness for maximum allowable deflection of L/700; Mill finish tubes will not be acceptable
- B. The roller tube shall be extruded with provision made for mechanical engagement with the operator and drive assembly.
- C. Fabric panels must be replaceable on site. Attachment of the fabric to the tube with double sided adhesive tapes, adhesives, staples, or rivets is not acceptable.

2.2.4 Hembars and Hembar Pockets: Specifier please select

- A. Aesthetically designed exposed extruded aluminium, custom oval or rectangular, or round shaped, with matching end caps, pre-weighted, to maintain bottom of shade fabric straight and flat. Colour pre-finished to match adjacent window framing or as selected by Consultant. Underside of hembar available with Schlegel light seal. Hembar attached to fabric panel with welded fabric spline.

2.2.6 Fasteners:

- A. Non-corrosive to manufacturer's recommendations.

2.2.6 Fabrics: For all Fabric Specifications please see the file labeled Fabrics. zip

2.2 Aluminum Finishes:

2.2.5 All exposed aluminum shall be clear anodized oxide finish according to AA-M12C22A31 or colored to match window framing.

2.2.6 Unexposed aluminium unless otherwise specified: mill finish.

3.0 Execution:

3.1 Fabrication:

3.1.1 Shading system components manufactured and assembled allowing for installation techniques to suit project requirements.

3.1.2 Finished assemblies shall be, square, true to size and free from distortion, twist, or other defects that could affect their strength, operation or appearance. Factory applied finish shall be uniform, smooth and without blemishes.

3.1.3 The fabric shall be colourfast, retain its shape, not be affected by moisture or heat, and shall be non-flammable. Cut fabric to eliminate glare and reflection from shining surfaces while maintaining exterior view. The top of the fabric is retained in recessed spline of the shade roller and the bottom of the fabric is retained by the selected hem.

Specifier please note: Battens will not be required in the majority of shades. If shades are wider than the woven width of the fabric (see fabric spec), contact the manufacturer at the location specified in section 2.1 for verification of any batten requirements.

3.2 Installation:

3.2.1 Install work by manufacturer's skilled tradesmen and installed in strict accordance with manufacturers recommendations.

3.2.2 All items installed, plumbed, squared, rigidly coupled and adequately anchored, maintaining uniformed clearances, accurate alignment levels, and parallel with the window plane. Fabric shall not travel more than 3 mm (0.125") in either direction within channels after installation.

3.2.3 The solar screen fabric shall be pre-measured and manufactured off-site

3.3 Adjusting and Cleaning:

- 3.3.1 Adjust shades and operating components as required to ensure smooth and trouble free operation without binding.
- 3.3.2 Adjust shade and shade-cloth to hang flat without buckling or distortion.
- 3.3.3 Clean shades and exposed components.
- 3.3.4 Replace work, which cannot be satisfactorily repaired, adjusted, or cleaned.