

**PART - 1 GENERAL**

**1.1 SUMMARY**

- .1 Section Includes: Labour, Products, equipment and services necessary to complete the work of this Section in accordance with the Contract Documents.

**1.2 REFERENCES**

- .1 National Fire Protection Association (NFPA):
  - .1 NFPA 701-23: Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

**1.3 SUBMITTALS**

- .1 Shop Drawings: Show shade arrangements, layout, location within window framing, controls, fixing devices and method of installation.
- .2 Sample: One 300 x 300 mm sample of each shade fabric specified.
- .3 Operation and Maintenance Data: Submit data for inclusion in Operation and Maintenance Manual.
- .4 Warranty Documentation: Submit warranty documentation for inclusion in the Operation and Maintenance Manual.

**1.4 QUALITY ASSURANCE**

- .1 Conform to applicable fire code for fire performance requirements of shade fabric; material flame-resistance rating as per NFPA 701 as tested by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
- .2 Qualifications:
  - .1 Manufacturer: Company specializing in manufacturing products specified in this Section with minimum five years documented experience.
  - .2 Installer: Company specializing in performing the work of this Section with minimum five years documented experience and approved by the manufacturer.
- .3 Source Limitations: Obtain roller shade system through one source from a single manufacturer. Obtain shade fabric from Manufacturer of roller shade system or from source approved in writing by Manufacturer of roller shade system.

**1.5 PROJECT CONDITIONS**

- .1 Do not install roller shades until finish work, including painting, is complete and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

**1.6 WARRANTY**

- .1 Warrant work of this Section against defects and deficiencies as follows. Promptly make good defects and deficiencies which become apparent within warranty period to satisfaction of, and at no expense, to Owner.
  - .1 Warrant roller shade system for a period of one (1) year.
  - .2 Warrant shade fabric for a period of one (1) year.

**PART - 2 PRODUCTS**

**2.1 DESCRIPTION**

- .1 Manual chain and roller operated shade systems with fascia or extruded pocket, incorporating an adjustable slip clutch to control rate of fall; single and double as indicated on Drawings.
  - .1 Upper and lower stop limits to prevent overwinding and unrolling to ensure alignment and air clearance at sill.
  - .2 Removable and replaceable shade and spline assembly without disassembling the hardware.
  - .3 Mounting to permit free flow of air over top of shade with a minimum of 12 sq.in./lin.ft.

**2.2 COMPONENTS**

- .1 Chain: Heavy duty continuous loop stainless steel ball chain, capable of resisting 40 kg. pull.
- .2 Bracket operating assembly: 3 mm steel bracket and injection moulded delrin components assembled on 11 mm diameter welded steel shaft. Provide Wall, jamb or ceiling mounting and centre brackets as required. Reversible for left-hand or right-hand operation.
- .3 Roller tube: Extruded 6063 T6 aluminum tube, sized to suit operating system with asymmetrically shaped mounting channels to which a matching snap-in vinyl spline can be mounted.
- .4 Shade spline: Extruded vinyl with asymmetrical insertion locking channels and embossed shade guide.
- .5 Tube and plug-and-pin assembly tapered to assure alignment and shade edge protection. Pin laterally adjustable 8 mm.
- .6 Mounting hardware: Manufacturer's standard heavy duty steel bracket constructed to support full weight of shade; integrated levelling device; locking mechanism on bracket adapter.
- .7 Roller shade pocket: Extruded aluminum alloy U shape housing for recessed mounting in acoustical tile or drywall ceilings; with snap on endplates and bottom closure; colour to be selected by Consultant from Manufacturer's standard range.
- .8 Fabric: Heat seal, non-ravelling, anti-static, anti-microbial, fade and stain resistant, 0.8 mm single thickness, vinyl fabric woven from 0.5 mm diameter extruded vinyl yarn of polyester and reinforced vinyl; bi-directional.
  - .1 Refer to Section 00 01 30 for Product, manufacturer and other requirements.
- .9 Hem bar: Manufacturer's standard; single length for each shade panel; exposed type with end caps. Colour and finish to be selected by Consultant from manufacturer's standard range.

**2.3 FABRICATION**

- .1 Square with shade spline for fastening directly to shade roller.
- .2 Seal single length mill finished aluminum flat hembar within hem.
- .3 Reinforce fabric with heat sealed spring tempered stainless steel batten stiffeners at 900 mm centres.

2.4 **FINISHES**

- .1 All exposed aluminum parts shall have clear anodized finish.
- .2 Steel parts shall be either nickel plated, satin finish, or bonderized prior to painting with baked enamel finish. Colour to be selected by Consultant.

**PART - 3 EXECUTION**

3.1 **EXAMINATION**

- .1 Verify conditions for installation, mounting surfaces, and all site dimensions prior to commencing installation.

3.2 **INSTALLATION**

- .1 Install shades as per Manufacturer's written instructions.
- .2 Install shades, secure, accurately aligned and free of sag.
- .3 Tolerances:
  - .1 Maximum variation of gap at window opening perimeter: 6 mm per 2.4 m of shade height.
  - .2 Maximum offset from level: 3 mm.
  - .3 Use manufacturer's edge clearance requirements for shades where width-to-height ratio exceeds 1:3.

3.3 **ADJUSTING**

- .1 Adjust units for smooth and quiet operation.
- .2 Adjust shade and shade fabric to hang flat without waves, folds, or distortion.
- .3 Replace defective shade and/or shade components.

END OF SECTION