

## **SECTION 12 24 13**

### **ROLLER WINDOW SHADES**

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#### **1. PART 1 – GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Manually operated roller window shades.
2. Solar screen shade bands.
3. Mounting hardware, brackets, hem bars, and accessories.

###### **B. Related Sections:**

2. Section 06 10 00 – Rough Carpentry (blocking).
  3. Section 08 80 00 – Glazing.
  4. Section 09 50 00 – Ceilings (shade pockets where applicable).
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##### **1.2 REFERENCES**

- A. NFPA 701 – Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.
  - B. WCMA ANSI/WCMA A100.1 – Safety of Corded Window Covering Products.
  - C. ISO 105-B02 – Colorfastness to Artificial Light (Xenon Arc Lamp).
  - D. GREENGUARD GOLD Certification Program.
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##### **1.3 SUBMITTALS**

###### **A. Product Data:**

Manufacturer's technical data including:

1. Fabric composition and performance properties.
2. Openness factor.
3. UV blockage percentage.
4. Fire test compliance documentation.
5. Installation instructions.

###### **B. Shop Drawings:**

1. Shade schedule indicating window locations, sizes, mounting conditions, and control side.
2. Bracket and mounting details.

###### **C. Samples:**

1. Minimum 8 x 10 inch fabric samples for each color and openness specified.

###### **D. Certificates:**

1. NFPA 701 compliance documentation.
2. GREENGUARD GOLD certification documentation.

###### **E. Warranty documentation.**

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#### **1.4 QUALITY ASSURANCE**

- A. Manufacturer shall specialize in commercial roller shade systems with minimum five (5) years documented experience.
- B. Installer shall be trained and approved by shade manufacturer.
- C. Shade systems shall comply with WCMA safety standards for corded products.

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#### **1.5 DELIVERY, STORAGE AND HANDLING**

- A. Deliver products in manufacturer's original packaging.
- B. Store in clean, dry, climate-controlled location.
- C. Protect from moisture, dust, and physical damage.

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#### **1.6 WARRANTY**

- A. Provide manufacturer's standard written warranty:
  - 1. Shade hardware: Minimum five (5) years.
  - 2. Shade fabric: Minimum five (5) years against defects in materials and workmanship.

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### **PART 2 – PRODUCTS**

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#### **2.1 MANUFACTURER**

- A. Basis of Design:  
GREEN 3000™ Solar Screen Fabric and compatible manual roller shade system.
- B. Substitutions:  
Submit in accordance with Division 01 requirements. Substitutions must meet or exceed all specified performance criteria.

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#### **2.2 MANUAL ROLLER SHADE SYSTEM**

- A. General:  
Factory-fabricated manual roller shade assemblies consisting of shade band, roller tube, clutch mechanism, mounting brackets, hem bar, and continuous loop chain control.

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#### **2.3 SHADE BAND FABRIC**

- A. Fabric Type: PVC-coated polyester solar screen.
  - B. Basis of Design Fabric: GREEN 3000™ Solar SCREEN FABRIC.
  - C. Openness Factor:
    - 1. 1 Percent Open.
    - 2. 3 Percent Open.(As indicated in shade schedule.)
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**1. GREEN 3000 – 3% Open**

- a. Openness Factor: Approximately 3%.
  - b. UV Blockage: Approximately 97%.
  - c. Composition: 25% Polyester, 75% Vinyl on Polyester.
  - d. Mesh Count: 48 Warp x 52 Fill.
  - e. Fabric Thickness: 0.026 inch.
  - f. Mesh Weight: 12.68 oz/yd<sup>2</sup>.
  - g. Fire Classification: NFPA 701-2015, Test Method #1.
  - h. Colorfastness: Grade 6–7 per ISO 105-B02.
  - i. Environmental Certification: GREENGUARD GOLD Certified.
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**2. GREEN 3000 – 1% Open**

- a. Openness Factor: 1%.
  - b. UV Blockage: Approximately 99%.
  - c. Composition: 25% Polyester, 75% Vinyl on Polyester.
  - d. Mesh Count: 66 Warp x 47 Fill.
  - e. Fabric Thickness: 0.027 inch.
  - f. Mesh Weight: 14.75 oz/yd<sup>2</sup>.
  - g. Fire Classification: NFPA 701-2015, Test Method #1.
  - h. Colorfastness: Grade 6–7 per ISO 105-B02.
  - i. Environmental Certification: GREENGUARD GOLD Certified.
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**D. Standard Colors:**

Oyster (White), Oyster/Beige (Alabaster), Oyster/Gray (Silver), Oyster/Chestnut (Cocoa),  
Oyster/Charcoal (Black).  
(Architect to select.)

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**2.4 ROLLER TUBE**

- A. Extruded aluminum tube sized to prevent deflection under full fabric load.
  - B. Tube diameter as required by shade width and manufacturer's engineering standards.
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**2.5 CLUTCH AND CONTROL**

- A. Heavy-duty commercial clutch mechanism with continuous loop bead chain.
  - B. Chain: Stainless steel or high-strength polyester bead chain.
  - C. Chain tension device complying with WCMA safety requirements.
  - D. Control Location: As indicated on drawings.
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**2.6 BRACKETS**

- A. Steel or aluminum brackets designed for wall, ceiling, or jamb mounting.
- B. Finish: Manufacturer's standard powder-coated finish.

## 2.7 HEM BAR

- A. Extruded aluminum hem bar fully enclosed in fabric pocket.
  - B. Provide concealed weight for smooth operation.
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## 2.8 EXPOSED BOTTOM RAIL

- A. General:  
Provide exposed bottom rail where indicated on drawings or shade schedule.
  - B. Material:
    - 1. Extruded aluminum.
    - 2. Minimum 1/8-inch wall thickness or manufacturer's standard heavy-duty commercial profile.
  - C. Profile:
    - 1. Rectangular or elliptical profile as selected by Architect.
    - 2. Sized appropriately for shade width to minimize deflection.
  - D. Finish:
    - 1. Manufacturer's standard powder-coated finish.
    - 2. Color to match bracket finish, fascia, or Architect's selection.
  - E. Attachment:
    - 1. Mechanically secured to shade band.
    - 2. Fabric secured with spline or mechanical fastening system to prevent slippage.
  - F. Weight:  
Provide sufficient internal weight to maintain fabric tension and smooth operation
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## 2.9 FABRICATION

- A. Fabricate shades square, true, and free of warp, distortion, or defects.
  - B. Heat-welded or RF-sealed fabric edges where required.
  - C. Provide proper tube sizing to minimize deflection.
  - D. Factory assemble complete shade units.
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## PART 3 – EXECUTION

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### 3.1 EXAMINATION

- A. Verify window openings are ready to receive shades.
  - B. Verify blocking and mounting surfaces are adequate.
  - C. Do not proceed until unsatisfactory conditions are corrected.
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### 3.2 INSTALLATION

- A. Install shades level, plumb, and aligned.
- B. Secure brackets to supporting substrate with appropriate fasteners.
- C. Install in accordance with manufacturer's written instructions.

D. Align multiple shades uniformly at consistent height.

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### **3.3 ADJUSTING**

- A. Adjust clutch mechanisms for smooth operation.
  - B. Verify shade limits and alignment.
  - C. Replace damaged components.
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### **3.4 CLEANING AND PROTECTION**

- A. Clean exposed surfaces after installation.
- B. Protect installed shades until Substantial Completion.