

## **1. GENERAL**

### **1.1 RELATED REQUIREMENTS**

- .1 Section 08 44 23 – Structural Sealant Glazed Curtain Walls
- .2 Division 25 for Integrated Automation
- .3 Division 26 for Electrical Requirements

### **1.2 REFERENCES**

- .1 Canada Green Building Council (CaGBC)
  - .1 LEED Canada NC 2009, LEED: Green Building Rating System Reference Package for New Construction and Major Renovations (including Addendum).
- .2 National Fire Protection Association (NFPA)
  - .1 NFPA 701: Standard Methods of Fire Tests for Flame Resistant Textiles and Films.

### **1.3 SUBMITTALS**

- .1 Samples:
  - .1 Submit for approval. A sample shade, installed where directed, fully representing the shades to be provided.
  - .2 Submit samples of fabrics and finish colours for selection and approval.
- .2 Product Data:
  - .1 Submit manufactures printed product literature, specifications and data sheet in accordance with Section 01 33 00 – Submittal Procedures.
  - .2 Fire-Performance Characteristics: Provide shade material tested in accordance with NFPA 701 - Vertical-Burn Test and rated "PASS". AND CAN USC 109.
- .3 Co-ordinate submittal requirements and provide submittals required by Section 01 35 20 – LEED Sustainable Requirements.

### **1.4 DELIVERY, STORAGE AND HANDLING**

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
  - .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
  - .2 Store and protect from nicks, scratches, and blemishes.
  - .3 Replace defective or damaged materials with new.

### **1.5 QUALITY ASSURANCE**

- .1 Qualifications:
  - .1 Manufacturer: capable of providing field service representation during construction and approving application method.
  - .2 Installer: experienced in performing work of this section who has specialized in installation of work similar to that required for this project.
- .2 Mockups:
  - .1 Construct mockups in accordance with Section 01 45 00 – Quality Control.
  - .2 Construct mockup of one glazing section on west wall with 3% specified screen fabric and one section with 5% specified screen fabric.
  - .3 Mockup used to judge workmanship, fastening method, operation of equipment and material application.
  - .4 Construct mockup where directed by Contract Administrator.
  - .5 Allow 24 hours for inspection of mockup by Contract Administrator before proceeding with Work.

- .6 When accepted by Contract Administrator, mockup will demonstrate minimum standard for this Work. Approved mockup section may remain as part of finished Work, non-selected section to be replaced with selected screen fabric at no additional cost.
- .7 Start Work only upon receipt of written acceptance of mockup by Contract Administrator.

## 1.6 MAINTENANCE

- .1 Submit maintenance and operating instructions, detailing the care, maintenance and cleaning of fabric.

## 1.7 SITE CONDITIONS

- .1 Check dimensions on site before fabrication commences, and report to Contract Administrator in writing all discrepancies.

## 1.8 WARRANTY

- .1 Provide a warranty of the work of this section, covering the period of five (5) years.
- .2 Promptly correct, at no additional cost to the contract, any defects or deficiencies that become apparent within warranty period.

## 2. PRODUCTS

### 2.1 BLINDS

- .1 Manufacturer: Altex, Terrebonne, Quebec, Canada. 1-800-363-5930
  - .1 Product: Moduline Elektra 105 ultra quiet 24VDC motor operated roller shade
  - .2 Height: as indicated on drawings, approx. 13'-6"
  - .3 Width: to match mullion to mullion inside dimension, to be confirmed with curtain wall shop drawings, approx. 5'-4"
  - .4 Fabric: Altex Texscreen 8103 or 8105 (tbd from mockup)
  - .5 Openness Factor: 3% or 5% (tbd from mockup)
  - .6 Colour: Oyster/Charcoal
  - .7 Roll Style: Reverse roll
  - .8 Interface: Somfy Animeo IP, programmed to HVAC system, with manual switch override
  - .9 Each blind to allow for individual manual override operation, switches to be located at front desk.

### 2.2 BLIND INTERFACE

- .1 Manufacturer: Somfy Systems Inc., 121 Herrod Blvd., Dayton, NJ, USA. 1-800-227-6639
  - .1 Product: Somfy Animeo IP Building Controller
    - .1 Features:
      - .1 sun tracking for dynamic façade control
      - .2 sensor threshold based motor control
      - .3 accurate time & astronomic motor control
      - .4 network-based motor control with user account access
      - .5 integration with third party control systems and BMS systems
      - .6 system auto discovery of motors, sensors, keypads
      - .7 IP connectivity for sub-controller connections, virtual keypads, remote access and programming
      - .8 Windows 7 based drag-and-drop setup, configuration and operation
    - .2 Accessories:
      - .1 bus power supply(s)
      - .2 power panel(s)
      - .3 compact sensor (indoor/outdoor)

**3. EXECUTION**

**3.1 EXAMINATION**

- .1 Verification of Conditions: verify that conditions of substrates and surfaces to receive work previously installed under other Sections or Contracts are acceptable for product installation in accordance with manufacturer's instructions prior to installation.
- .2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval from Contract Administrator.
- .4 Coordinate work with electrical and HVAC requirements for automation system.

**3.2 INSTALLATION**

- .1 Install materials in accordance to manufacturer's specifications, standards, and procedures as detailed on contract drawings.
- .2 Adequate clearance shall be provided to permit unencumbered operation of shade and hardware.
- .3 Fasten up into alum. angle attached to curtain wall mullions. Provide angle to match mullion finish as indicated in drawings.
- .4 Install square, plumb, true to line with operable parts adjusted for correct function.
- .5 Before completion of the installation, the installer shall adjust all moving and operating parts to function smoothly and correctly.
- .6 All electrical lines to run vertically down into crawlspace within curtain wall glazing mullions.

**3.3 CLEANING**

- .1 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

**3.4 PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by installation.
- .3 Protect shades from damage until final inspection

**3.5 SCHEDULE**

- .1 Entire west wall curtain wall glazing, including above west exit door.

**END OF SECTION.**

## 1. GENERAL

### 1.1. RELATED REQUIREMENTS

- .1 Section 06 10 00 – Rough Carpentry
- .2 Section 06 40 00 – Architectural Woodwork
- .3 Section 11 31 00 – Appliances

### 1.2. SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
  - .1 Provide manufacturer's printed product literature and data sheets and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2 Provide maintenance data for incorporation into manual specified in Section 01 78 00 – Closeout Submittals.
- .3 Submit duplicate samples of joints, cutouts and post-formed profiles.
- .4 Co-ordinate submittal requirements and provide submittals required by Section 01 35 20 – LEED Sustainable Requirements.

### 1.3. DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Deliver no components to project site until areas are ready for installation.
- .3 Store components indoors prior to installation.
- .4 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .5 Replace defective or damaged materials with new.

### 1.4. WARRANTY

- .1 Provide manufacturer's warranty against defects in materials.
  - .1 Warranty shall provide material and labour to repair or replace defective materials.
- .2 Manufacturer's warranty shall cover a period of ten (10) years from date of substantial completion.

## 2. PRODUCTS

### 2.1. MATERIALS

- .1 Solid Polymer Components (counter tops and backsplashes as indicated on project drawings):
  - .1 Manufacturer: DuPont Canada, Mississauga, Ontario, Canada, 1-800-387-2122
  - .2 Product: Corian Solid Surfaces
  - .3 Colour: Glacier White
  - .4 Finish: Matte
  - .5 Thickness: 1/2 inch
  - .6 Performance Characteristics:

Property	Typical Result	Test
Tensile Strength	6,000 psi	ASTM D 638
Tensile Modulus	$1.5 \times 10^{-6}$ psi	ASTM D 638
Tensile Elongation	0.4% min.	ASTM D 638
Flexural Strength	10,000 psi	ASTM D 790
Flexural Modulus	$1.2 \times 10^{-6}$ psi	ASTM D 790

Hardness Scale	>85	Rockwell "M"
	56	ASTM D 785 Barcol Impressor ASTM D 2583 ASTM D 696
Thermal Expansion	3.02 x 10 <sup>-5</sup> in./in./°C (1.80 x 10 <sup>-5</sup> in./in./°F)	
Gloss (60° Gardner) Light Resistance	5–75 (matte—highly polished) (Xenon Arc) No effect	ANSI Z124 NEMA LD 3-2000 Method 3.3
Wear and Cleanability	Passes	ANSI Z124.3 & Z124.6
Stain Resistance: Sheets	Passes	ANSI Z124.3 & Z124.6
Fungus and Bacteria Resistance Boiling Water Resistance	Does not support microbial growth No visible change	ASTM G21&G22 NEMA LD 3-2000 Method 3.5
High Temperature Resistance	No change	NEMA LD 3-2000 Method 3.6
Izod Impact (Notched Specimen)	0.28 ft.-lbs./in. of notch	ASTM D 256 (Method A)
Ball Impact Resistance: Sheets	No fracture— 1/2 lb. ball: 1/2" slab— 144" drop	NEMA LD 3-2000 Method 3.8
Weatherability	ΔE* <sub>94</sub> <5 in 1,000 hrs.	ASTM G 155
Specific Gravity † Water Absorption	1.7 Long-term 0.6% (1/2")	ASTM D 570
Toxicity Protocol	99 (solid colors)	Pittsburgh
Flammability	66 (patterned colors) All colors (Class I and Class A)	Test ("LC50"Test) ASTM E 84, NFPA 255 & UL 723
Flame Spread Index	<25	
Smoke Developed Index	<25	

† Approximate weight per square foot: 1/4" (6 mm) 2.2 lbs., 1/2" (12.3 mm) 4.4 lbs.  
 Shapes meet or exceed the ANSI Z124.3 and ANSI Z124.6 standards for plastic sinks and lavatories.  
 NEMA results based on the NEMA LD 3-2000

## 2.2. ACCESSORIES

- .1 Joint adhesive:
  - .1 Manufacturer's standard one- or two-part adhesive kit to create inconspicuous, nonporous joints.
- .2 Sealant:
  - .1 Manufacturer's standard mildew-resistant, FDA-compliant, NSF 51-compliant (food zone-any type), UL-listed silicone sealant in colours matching components.
- .3 Conductive tape:
  - .1 Manufacturer's standard aluminum foil tape, with required thickness, for use with cutouts near heat sources.
- .4 Insulating felt tape:
  - .1 Manufacturer's standard for use with conductive tape in insulating solid surface material from adjacent heat source.

## 3. EXECUTION

### 3.1. EXAMINATION

- .1 Examine substrates and conditions, with fabricator present for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- .2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.
- .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval from Contract Administrator.
- .4 Coordinate Work with other sections such as Appliances and Casework to ensure installation as per specifications and Drawings.

### **3.2. INSTALLATION**

- .1 Install components plumb, level and rigid, scribed to adjacent finishes, in accordance with approved shop drawings and product data.
  - .1 Provide product in the largest pieces available.
  - .2 Form field joints using manufacturer's recommended adhesive, with joints inconspicuous in finished work. Exposed joints/seams shall not be allowed.
  - .3 Cut and finish component edges with clean, sharp returns.
  - .4 Rout radii and contours to template.
  - .5 Anchor securely to base cabinets or other supports.
  - .6 Align adjacent countertops and form seams to comply with manufacturer's written recommendations using adhesive in colour to match countertop.
  - .7 Carefully dress joints smooth, remove surface scratches and clean entire surface.
  - .8 Install countertops with no more than 1/8 inch sag, bow or other variation from a straight line.
- .2 Coved backsplashes and sidesplashes:
  - .1 Provide coved backsplashes and sidesplashes at all walls and adjacent millwork.
  - .2 Fabricate radius cove at intersection of counters with backsplashes to dimensions shown on the drawings.
  - .3 Adhere to countertops using manufacturer's standard colour-matched joint adhesive.
- .3 Integral sinks
  - .1 Secure sinks and lavatory bowls to tops using manufacturer's recommended sealant, adhesive and mounting hardware to maintain warranty.

### **3.3. CLEANING**

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Remove adhesives, sealants and other stains.

### **3.4. PROTECTION**

- .1 Protect installed products and components from damage during construction.
- .2 Repair damage to adjacent materials caused by installation.

**END OF SECTION.**