



SECTION 10240

RETRACTABLE SCREEN SYSTEMS

Display hidden notes to specifier.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Manual Retractable Door Screens.
- B. Manual Retractable Window Screens.
- C. Motorized Retractable Screen Systems.

1.2 RELATED SECTIONS

- A. Section 05100 - Structural Metal Framing.
- B. Section 06100 - Rough Carpentry.
- C. Section 07900 - Joint Sealers.
- D. Section 09900 - Paints and Coatings.
- E. Section 16050 - Basic Electrical Materials and Methods.

1.3 REFERENCES

- A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings: Show dimensions, layout, profiles and product components; details of anchoring and fastening; sealants and weatherstripping; and recorded field measurements.

- D. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each finish product and screen type specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- F. Manufacturers warranties.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum ten years experience producing aluminum retractable screen products of the type specified.
- B. Installer Qualifications: Experienced in performing work of this section that has specialized in installation of work similar to that required for this project.
- C. Mock-Up: Provide a mock-up for evaluation of preparation techniques and installation workmanship.
 - 1. Finish mock-up installation areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and operation are approved by Architect.
 - 3. Rework mock-up as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Protect materials from exposure to moisture. Do not deliver until after painting and wet work is complete and dry.
- C. Protect factory finishes from damage, precipitation and construction materials until ready for installation.

1.7 WARRANTY

- A. Warrantee. Provide a limited lifetime material and workmanship warranty to the original purchaser, under expected normal use. Warranty does not cover claims originated from faulty installations, hail, flood, fire, harmful chemicals and fumes, misuse, abuse, fading, chalking, oxidization, erosion of paint, acts of God, or causes beyond control of the manufacturer. Screen mesh specifically excluded. See manufacturers warranty for complete details.
- B. Warrantee. Provide a limited 5 year warrantee for the electrical motors, commencing from the date of satisfactory installation for the original purchaser, against failure under expected normal use. Warranty is void if the electrical motor is exposed to water, acts of God, or abnormal conditions.

1.8 COORDINATION

- A. Coordinate Work with other operations and installation of adjacent finish materials to avoid damage to installed materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Mirage -Retractable Screens, which is located at: 9747-

199A St. ; Langley, BC, Canada V1M 2X7; Tel: 604-888-7655; Fax: 604-888-1718;
Email: info@alcoventures.com; Web: www.miragescreensystems.com

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 MANUAL RETRACTABLE SCREEN SYSTEMS

- A. Retractable Doors Screens: Mirage Retractable Screen Systems.
 - 1. Construction:
 - a. Housing, pull bar and track, extruded aluminum. 6063-T5 alloy.
 - b. All stainless steel fasteners painted to match exterior finish.
 - c. Plastic components UV and impact resistant materials.
 - d. Plastic used in guides to be self lubricating.
 - 2. Standard Features:
 - a. Adjustable Spring Tension.
 - b. Super Magnet Latch: Corrosion Resistant Super Magnet latch system.
 - c. Track Depth: 1/2 inch (12,5 mm).
 - d. Track Height: Maximum height 1 inch (25.5 mm).
 - e. Easy Grip sliding latches.
 - 3. Door Screens:
 - a. 18/14 Charcoal Fiberglass Mesh.
 - b. 18/14 Grey Fiberglass Mesh.
 - c. Super Screen (Polyester) Mesh:
 - 4. Optional Features:
 - a. Speed Reducer: Slows the speed at which the screen can retract and significantly reduces screen recoil.
 - b. Thermal Reinforcement: Thermal reinforced screen edges for added tear protection.
 - c. Bumper Stripping: Reduces screen recoil and protects small fingers from being accidentally pinched.
 - d. Loop Lock to lock single or double doors.
 - e. Slide Bolt: Provided to hold inactive side of a double screen door in place.
 - f. Door Restrictor: Hold open device for normal door in screened opening.
 - g. Decorative decal as selected by the Architect for mesh visibility.
 - 5. Size:
 - a. Heights as indicated on the Drawings.
 - b. Widths as indicated on the Drawings.
 - c. Height ____ inches.
 - d. Width ____ inches.
 - 6. Finish:
 - a. Powder Coat: Complying with to AAMA 2604 weathering specifications.
 - b. Standard Color:
 - 1) Polar White
 - 2) Linen Cream
 - 3) Sandlewood
 - 4) Slate Gray
 - 5) Tudor Brown
 - 6) Midnight Black
 - 7) Rideau Brown
 - c. Designer Color: Diamond Series.
 - 1) Furniture White

- 2) Almond
- 3) Sable
- 4) Oyster Grey
- 5) Wicker
- 6) Railing Beige
- 7) Ex Pebble Grey
- 8) Mocha
- 9) Lt. Bronze Metallic
- 10) Metallic Silver
- 11) Ansi 70 Grey
- 12) Ansi 49 Grey
- 13) Slate Blue
- 14) Legal Blue
- 15) Telco Green
- 16) Arcadia Green
- 17) Ivy Green
- 18) Seafoam Green
- 19) Fence Green
- 20) Gloss Green
- 21) Hartford Green
- 22) Evergreen
- 23) Seal Beach Green
- 24) Monarch Gold
- 25) Pennywise
- 26) Autumn Leaf
- 27) Tile Red
- 28) Sundried Tomato
- 29) Burgundy
- 30) Mahogany
- 31) Metro Brown
- 32) Gloss Brown
- 33) Dk Bronze Metallic
- 34) Charcoal

d. Custom Color: As selected by the Architect.

- B. Retractable Window Screens: Mirage Retractable Screen Systems.
- a. Housing, pull bar and track, extruded aluminum. 6063-T5 alloy.
 - b. All stainless steel fasteners painted to match exterior finish.
 - c. Plastic components UV and impact resistant materials.
 - d. Plastic used in guides to be self lubricating.
2. Standard Features:
- a. Adjustable Spring Tension.
 - b. Super Magnet Latch: Corrosion Resistant Super Magnet latch system.
 - c. Track Depth: 1/2 inch (12,5 mm).
 - d. Track Height: Maximum height 1 inch (25.5 mm).
 - e. Easy Grip sliding latches.
3. Screens:
- a. 18/14 Charcoal Fiberglass Mesh.
 - b. 18/14 Grey Fiberglass Mesh.
 - c. 20/30 Charcoal Sunscreen Mesh.
 - d. 20/30 Grey Sunscreen.
 - e. Super Screen (Polyester) Mesh:
4. Optional Features:
- a. Speed Reducer: Slows the speed at which the screen can retract and significantly reduces screen recoil.
 - b. Thermal Reinforcement: Thermal reinforced screen edges for added

- tear protection.
 - c. Bumper Stripping: Reduces screen recoil and protects small fingers from being accidentally pinched.
 - d. Loop Lock to lock single or double doors.
 - 5. Size:
 - a. Heights as indicated on the Drawings.
 - b. Widths as indicated on the Drawings.
 - c. Height ____ inches.
 - d. Width ____ inches.
 - 6. Finish:
 - a. Powder Coat: Complying with to AAMA 2603-02 weathering specifications.
 - b. Standard Color:
 - 1) Polar White
 - 2) Linen Cream
 - 3) Sandlewood
 - 4) Slate Gray
 - 5) Tudor Brown
 - 6) Midnight Black
 - 7) Rideau Brown
 - c. Designer Color: Diamond Series.
 - 1) Furniture White
 - 2) Almond
 - 3) Sable
 - 4) Oyster Grey
 - 5) Wicker
 - 6) Railing Beige
 - 7) Ex Pebble Grey
 - 8) Mocha
 - 9) Lt. Bronze Metallic
 - 10) Metallic Silver
 - 11) Ansi 70 Grey
 - 12) Ansi 49 Grey
 - 13) Slate Blue
 - 14) Legal Blue
 - 15) Telco Green
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 - 20) Gloss Green
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 - 22) Evergreen
 - 23) Seal Beach Green
 - 24) Monarch Gold
 - 25) Pennywise
 - 26) Autumn Leaf
 - 27) Tile Red
 - 28) Sundried Tomato
 - 29) Burgundy
 - 30) Mahogany
 - 31) Metro Brown
 - 32) Gloss Brown
 - 33) Dk Bronze Metallic
 - 34) Charcoal
 - d. Custom Color: As selected by the Architect.

2.3 MOTORIZED RETRACTABLE SCREEN SYSTEMS

- A. Motorized Screen System:
1. Construction:
 - a. All extruded aluminum components with roll formed aluminum housings.
 - b. All stainless steel fasteners painted to match exterior finish.
 - c. Plastic components UV and Impact resistant materials.
 2. Standard Features:
 - a. Weight bar 2 inches (51 mm) high with recessed bug rubber sill seal 1-1/2 inches (38 mm) high.
 - b. Residential Side tracks 1-1/2 inches (38 mm) by 1-3/4 inches (44 mm) extruded aluminum.
 - c. Surface or Recessed track mounts.
 - d. Commercial Side Tracks: 3.15 inches (80 mm) by 3/4 inch (19 mm).
 - e. Cover Plate 1-3/4 inch (44 mm) face by 3/4 inch (19 mm) deep.
 - f. Outer roller 3-1/2 inches (89 mm).
 - g. Insert roller 2 inch (51 mm) diameter.
 - h. Standard hood and end caps 5-1/2 inches (140 mm) by 5-1/2 inches (140 mm).
 3. Motor: Power Draw SIMU Hz Motor or equivalent.
 - a. 1.5 Amps.
 - b. 110 Volt.
 4. Remote: Hand held, waterproof, 4-3/4 inches (121 mm) by 1-3/4 inches (44 mm) by 3/4 inch (19 mm).
 5. Optional Features:
 - a. Soliris 24 Volt Sun and Wind Sensor or equivalent.
 - 1) Sun intensity and wind speed thresholds can be set on the sensor.
 - 2) Soliris will command the motor roll a screen up or down as needed, via radio signal.
 - 3) Includes a 24V DC transformer to provide power.
 - 4) Can be hard wired or plugged into an outlet. No additional wiring is needed.
 - 5) Radio range up to 65 feet (19.8 m).
 - 6) Can operate a single unit or multi units (multiple units will operate as a group).
 - 7) Compatible with standard Hertz motors included with motorized screen.
 - 8) Sensor Size: 9-1/3 inches (237 mm) by 6-1/3 inches (161 mm).
 - b. Eolis 24 Volt Wind Sensor or equivalent.
 - 1) Wind speed threshold set on the sensor.
 - 2) Eolis will command the motor to roll a screen up or down as needed, via radio signal.
 - 3) Includes a 24V DC transformer to provide power. No additional wiring is needed.
 - 4) Can be hard wired or plugged into an outlet.
 - 5) Radio range up to 65 feet (19.8 m).
 - 6) Can operate a single unit or multi units (multi units will operate as a group).
 - 7) Compatible with standard Hertz motors included with motorized screen.
 - 8) Sensor Size: 9-1/3 inches (237 mm) by 6-1/3 inches (161 mm).
 - c. Chronis RTS Timer or equivalent.
 - 1) Automatically raises and lowers screen based on pre-set time of day.

- 2) Programmable for the same time each day, or different times every day.
- 3) Security function raises/lowers screen randomly implying an occupied home.
- 4) No plugs or external wiring needed.
- 5) Operates on 2 AAA batteries.
- 6) Can also be used as a regular remote control.
- 7) Radio range up to 65 feet (19.8 m).
- 8) Optional light sensor, so automation can be determined by sun levels (Chronis Lite).
- 9) Compatible with standard Hertz motors included with motorized screen.
- 10) Face mounting design.
- 11) Sensor Size: 3-1/8 inches (79 mm) by 3-1/8 inches (79 mm) by 1 inch(25 mm).

6. Size:

- a. Height(s) as indicated on the Drawings.
- b. Width(s) as indicated on the Drawings.
- c. Height ____ inches.
- d. Width ____ inches.

7. Finish:

- a. Powder Coat: Complying with to AAMA 2603-02 weathering specifications.
- b. Standard Color:
 - 1) White
 - 2) Bronze
 - 3) Ivory
- c. Designer Color: Diamond Series.
 - 1) Saddle
 - 2) Night Sky
 - 3) Seashore
 - 4) Terra
 - 5) River Rock
 - 6) Speckled Oak
 - 7) Fruitwood
 - 8) Mocha
 - 9) Evergreen
- d. Custom Color: As selected by the Architect.

B. Screen Material: Fiberglass screening woven from permanent glass yarn coated with a protective vinyl.

1. Insect Mesh:

- a. 18/14 Charcoal: Fiberglass.
 - 1) Under 9 feet with no seam
 - 2) Over 9 feet with top seam.
 - 3) Over 9 feet with bottom seam.
- b. 18/14 Gray: Fiberglass.
 - 1) Under 9 feet with no seam
 - 2) Over 9 feet with top seam.
 - 3) Over 9 feet with bottom seam.
- c. 20/20 Charcoal: Fiberglass.
 - 1) Under 8 feet with no seam
 - 2) Over 8 feet with top seam.
 - 3) Over 8 feet with bottom seam.
- d. 20/20 Gray: Fiberglass.
 - 1) Under 7 feet with no seam

- 2) Over 7 feet with top seam.
- 3) Over 7 feet with bottom seam.
- 2. Solar Mesh:
 - a. Suntex 80: Vinyl coated polyester.
 - 1) Under 8 feet with no seam
 - 2) Over 8 feet with top seam.
 - 3) Over 8 feet with bottom seam.
 - b. 20/30 Charcoal: Fiberglass.
 - 1) Under 7 feet with no seam
 - 2) Over 7 feet with top seam.
 - 3) Over 7 feet with bottom seam.
 - c. 20/30 Gray: Fiberglass.
 - 1) Under 7 feet with no seam
 - 2) Over 7 feet with top seam.
 - 3) Over 7 feet with bottom seam.
- 3. Sunscreen: Fiberglass.
 - a. Under 7 feet with no seam
 - b. Over 7 feet with top seam.
 - c. Over 7 feet with bottom seam.
- 4. Privacy Mesh:
 - a. Shearweave 2100: Fiberglass.
 - 1) Under 8 feet with no seam
 - 2) Over 8 feet with top seam.
 - 3) Over 8 feet with bottom seam.
 - b. Super Solar: Fiberglass.
 - 1) Under 7 feet with no seam
 - 2) Over 7 feet with top seam.
 - 3) Over 7 feet with bottom seam.
- 5. Super Screen: A durable vinyl coated polyester screen mesh ideal where pets are present.
 - a. Pet Screen Black:
 - 1) Under 10 feet with no seam
 - 2) Over 10 feet with top seam.
 - 3) Over 10 feet with bottom seam.
 - b. Pet Screen White:
 - 1) Under 10 feet with no seam
 - 2) Over 10 feet with top seam.
 - 3) Over 10 feet with bottom seam.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify that openings are within allowable dimensional tolerances, plumb, level, and clean, provide solid anchoring surface, and are in accordance with approved shop drawings
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for

achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Anchor to adjacent construction without distortion or stress.
- C. Fit and align screen assembly including hardware, plumb, level and square to ensure smooth operation.
- D. Make wiring connections between power supply and operator and between operator and controls.

3.4 ADJUSTING AND CLEANING

- A. Clear and clean tracks and guides after installation.
- B. Adjust hardware for proper operation.
- C. Lubricate tracks and plastic guides with silicone spray lubricant or equivalent. Wipe off excess material.
- D. Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions before acceptance.
- E. Any abraded surface of the finish shall be cleaned and touched up with air dry paint, as approved and furnished by the manufacturer, in a color to match factory applied finish.
- F. Remove from project site and legally dispose of construction debris associated with this work.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION