

Division 12 24 13  
Manual Clutch Roller Shades

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Roller shades including the following:
  - 1. Single roller shades.
  - 2. Double roller shades.
  - 3. Shade accessories.
  - 4. Fabrics.

1.2 RELATED SECTIONS

- A. Section 06 10 00 - Rough Carpentry. Wood blocking for the attachment of brackets.
- B. Section 09 59 00- Acoustical Ceilings. Shade accessories including shade pockets and tile support

1.3 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- 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: Provide elevation of each type of installation and details for mounting.
- D. Selection Samples: Two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- E. Verification Samples: For each fabric specified, two samples (minimum size 2 inches square) representing actual material and color.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum 10 years of experience manufacturing similar products.
- B. Installer Qualifications: Minimum 5 years of experience installing similar products.
- C. Mock-Up: Provide a finished mock-up with correct fabric and accessories representative of the project.
- D. Child Safety Standards: Shades and installation shall be in compliance with ANSI/WCMA child safety standards.

1.5 PRE-INSTALLATION MEETINGS

- A. Conduct on-site meeting prior to starting work of this section to review project requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.
- B. Handling: Handle materials to avoid damage.
- C. Roller shade installation to commence once all finish work has been completed.

1.7 PROJECT CONDITIONS

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- A. Maintain environmental conditions between 32 and 104 degrees Fahrenheit and humidity below 90%. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 SEQUENCING

- A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: WT Shade, a division of Inpro: 12830 Virkler Drive, Suite 500, Charlotte, NC 28273; Toll Free Tel: 877-294-3580; Email: [WTcustservice@inprocorp.com](mailto:WTcustservice@inprocorp.com) Web: [www.WTShade.com](http://www.WTShade.com)
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 SINGLE ROLLER SHADES

- A. Pocket Manual Clutch Roller Shade as manufactured by WT Shade.
1. Model options based on shade size: H100 Pocket, H200 Pocket and H300 Pocket.
  2. Clutch shall have metal hook attachment to bracket for maximum stability and safety.
  3. Clutch has integrated safety hold-down screw physically locking the clutch to the mounting bracket.
  4. Reinforced chain skirt has combined stainless steel plate for increased strength.
  5. Universal Mounting Bracket shall be Ceiling, Wall, or Jamb Mount capable. Refer to drawings. Unless noted in drawings, shade dealer is responsible for selecting proper size of brackets based on window sizes and maintaining consistency within spaces.
  6. Regular or Reverse Roll available. Refer to drawings.
  7. Maximum Roll Diameter: H100= 2-1/4 inches (57 mm). H200= 2-3/4 inches (70 mm). H300= 3-3/4 inches (95 mm).
  8. Drive Chain.
    - a. #10 Stainless Steel chain (standard), nickel plated steel chain shall not be accepted.
    - b. Brass chain. Available in Polished Brass (-08) or Antique Brass (-07).
    - c. Plastic bead chain. Available in White (-10), Ivory (-04), Grey (-80) or Black (-90).
  9. Child Safety Devices (Pre-attached to Chain).
    - a. Tension Device (Standard): Meets ANSI/WCMA child safety standards.
    - b. Chain Guard (Optional): Meets CPSC and ANSI/WCMA child safety standards.
  10. Hembar: Aluminum slat heat sealed inside 1-3/4 inch (44 mm) hem pocket (to include side pockets, SSP).
  11. Clutch mechanism shall have an interchangeable drum to accommodate multiple tube sizes. Clutch mechanism shall have a metal attachment point for strength and safety. Clutch mechanisms with plastic attachment points shall not be accepted.
    - a. Composition: 30 percent glass filled nylon.
    - b. Finish: White (-10) or Black (-90). Clutch will be color coordinated based on fabric color. See WT Shade Color Coordination Guide for details.
  12. Idler mechanism shall be spring loaded with interchangeable housing to allow for multiple tube sizes. Spring loaded idler shall have a metal axle for added strength and safety. Idlers with plastic attachment points shall not be accepted.
    - a. Composition: 10 percent glass filled nylon.
    - b. Idler Finish: White (-10) or Black (-90). Idler will be color coordinated based on fabric color. See WT Shade Color Coordination Guide for details.
  13. Bracket Finish: Zinc Plated (-49).

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- B. SoloMount Manual Clutch Roller Shade as manufactured by WT Shade.
1. Model options based on shade size: H100 SoloMount, H200 SoloMount and H300 SoloMount. SoloMount brackets are available with front fascia and/or rear fascia.
  2. Clutch shall have metal hook attachment to bracket for maximum stability and safety.
  3. Clutch has integrated safety hold-down screw physically locking the clutch to the mounting bracket.
  4. Reinforced chain skirt has combined stainless steel plate for increased strength
  5. Universal Mounting Bracket shall be Ceiling, Wall, or Jamb Mount capable. Refer to drawings. Unless noted in drawings, shade dealer is responsible for selecting proper size of brackets based on window sizes and maintaining consistency within spaces.
  6. Regular Roll or Reverse Roll. Refer to drawings.
  7. Maximum Roll Diameter: H100= 2-1/4 inches (57 mm). H200= 2-3/4 inches (70 mm). H300= 3-3/4 inches (95 mm).
  8. Drive Chain.
    - a. #10 Stainless Steel chain (standard), nickel plated steel chain shall not be accepted.
    - b. Brass chain. Available in Polished Brass (-08) or Antique Brass (-07).
    - c. Plastic bead chain. Available in White (-10), Ivory (-04), Grey (-80) or Black (-90).
  9. Child Safety Devices (Pre-attached to Chain).
    - a. Tension Device (Standard): Meets ANSI/WCMA child safety standards.
    - b. Chain Guard (Optional): Meets CPSC and ANSI/WCMA child safety standards
  10. Hembar: Aluminum slat heat sealed inside 1-3/4 inch (44 mm) hem pocket (to include side pockets, SSP)
  11. Clutch mechanism shall have an interchangeable drum to accommodate multiple tube sizes. Clutch mechanism shall have a metal attachment point for strength and safety. Clutch mechanisms with plastic attachment points shall not be accepted.
    - a. Composition: 30 percent glass filled nylon.
    - b. Clutch and SoloMount Bracket Finish: White (-10) or Black (-90). Clutch and SoloMount Brackets will be color coordinated based on fabric color. See WT Shade Color Coordination Guide for details.
  12. Idler mechanism shall be spring loaded with interchangeable housing to allow for multiple tube sizes. Spring loaded idler shall have a metal axle for added strength and safety. Idlers with plastic attachment points shall not be accepted.
    - a. Composition: 10 percent glass filled nylon.
    - b. Idler Finish: White (-10) or Black (-90). Idler will be color coordinated based on fabric color. See WT Shade Color Coordination Guide for details.
  13. Available Notchless Front and/or Rear Fascia sizes: H100= 2-7/8": H200= 3-3/8": H300= 4-7/16"
  14. Front Fascia and Rear Fascia finishes are 6061-T6 Aluminum in White (-10), Ivory (-04), Silver (-20), Bronze (-50), Black (-90).
  15. Available 1060 Aluminum End Caps are not to exceed 1/32" thick and are press fit onto SoloMount brackets. End Cap finish is to be exact finish of Front and/or Rear Fascia.

### 2.3 DOUBLE ROLLER SHADES

- A. Dual SoloMount Manual Clutch Roller Shade as manufactured by WT Shade.
1. Model options based on shade size: H100 Dual SoloMount, H200 Dual SoloMount.
  2. Clutch shall have metal hook attachment to bracket for maximum stability and safety.
  3. Clutch has integrated safety hold-down screw physically locking the clutch to the mounting bracket.
  4. Reinforced chain skirt has combined stainless steel plate for increased strength
  5. Universal Mounting Bracket shall be Ceiling, Wall, or Jamb Mount capable. Refer to drawings. Unless noted in drawings, shade dealer is responsible for selecting proper size of brackets based on window sizes and maintaining consistency within spaces.
  6. Regular Roll only.
  7. Maximum Roll Diameter: H100= 2-1/4 inches (57 mm). H200= 2-3/4 inches (70 mm).
  8. Drive Chain.
    - a. #10 Stainless Steel chain (standard), nickel plated steel chain shall not be accepted.
    - b. Brass chain. Available in Polished Brass (-08) or Antique Brass (-07).
    - c. Plastic bead chain. Available in White (-10), Ivory (-04), Grey (-80) or Black (-90).

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9. Child Safety Devices (Pre-attached to Chain).
  - a. Tension Device (Standard): Meets ANSI/WCMA child safety standards.
  - b. Chain Guard (Optional): Meets CPSC and ANSI/WCMA child safety standards.
10. Hembar: Aluminum slat heat sealed inside 1-3/4 inches (44 mm) hem pocket (to include side pockets, SSP)
11. Clutch mechanism shall have an interchangeable drum to accommodate multiple tube sizes. Clutch mechanism shall have a metal attachment point for strength and safety. Clutch mechanisms with plastic attachment points shall not be accepted.
  - a. Composition: 30 percent glass filled nylon.
  - b. Clutch and Dual SoloMount Bracket Finish: White (-10) or Black (-90). Clutch and Dual SoloMount Brackets will be color coordinated based on fabric color. See WT Shade Color Coordination Guide for details.
12. Idler mechanism shall be spring loaded with interchangeable housing to allow for multiple tube sizes. Spring loaded idler shall have a metal axle for added strength and safety. Idlers with plastic attachment points shall not be accepted.
  - a. Composition: 10 percent glass filled nylon.
  - b. Idler Finish: White (-10) or Black (-90). Idler will be color coordinated based on fabric color. See WT Shade Color Coordination Guide for details.
13. Available Notchless Front and/or Rear Fascia sizes: H100= 4-7/16": H200= 6-13/16"
14. Front Fascia and Rear Fascia finishes are 6061-T6 Aluminum in White (-10), Ivory (-04), Silver (-20), Bronze (-50), Black (-90)
15. Available 1060 Aluminum End Caps are not to exceed 1/32" thick and are press fit onto SoloMount brackets. End Cap finish is to be exact finish of Front and/or Rear Fascia.

**2.4 SHADE ACCESSORIES**

- A. Light Blocking: Provide side channels, center channels, sill channel or light stop angles.
  1. Extruded 6061-T6 aluminum.
  2. Side channels include 1/4 Inch (6 mm) non-adhesive brush insert Grey (-80).
  3. Color: White (-10), Ivory (-04), Silver (-20), Bronze (-50), Black (-90).
    - a. Light Stop Angles available in White (-10) and Silver (-20)
  4. Provide channel top caps and hole plugs with channels.
  5. Provide where indicated or required by drawings.
- B. Shade pockets: Provide shade pockets as indicated or required by drawings.
  1. Extruded 6061-T6 aluminum (.060" thick) in White (-10) or 20 gauge galvanized 1018 CRS in mill finish.
  2. Provide splice pins and end caps where indicated or required by drawings.
  3. Provide ceiling tile support where indicated or required by drawings.
  4. Sizes:
    - a. 5" x 5" (extruded aluminum).
    - b. 5" x 5" with tile support (extruded aluminum).
    - c. 6" x 9" with white aluminum closure mount (20 gauge galvanized 1018 CRS).
    - d. 6" x 9" with white aluminum closure mount with tile support (20 gauge galvanized 1018 CRS).
- C. Bottom Closure & Closure Mount: Provide where indicated or required by drawings.
  1. Extruded 6061-T6 aluminum (.060 thick).
  2. Finished White (-10).
  3. Sizes:
    - a. 2" Bottom Closure.
    - b. 3" Bottom Closure.
    - c. 5" Bottom Closure.
    - d. Closure Mount.
    - e. Closure Mount with Tile Support.
- D. Guide Track & Cable Kit: Provide where indicated or required by drawings.
  1. Classic Guide Track (15/16" x 1-3/16").

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- a. Extruded 6061-T6 aluminum.
- b. Finished White (-10).
- 2. Guide Wire Cable Kit:
  - a. Ceiling, sill, wall, or jamb mount ready.
  - b. Use 3/64 inch braided stainless steel cable.
  - c. Capable of tension adjustment on upper and lower ends of the guide wire cable.
  - d. Low profile 1/2 inch (12 mm) sill tensioner.
- 3. Idle Cable Support Kit:
  - a. Ceiling, wall, or jamb mount ready.
  - b. Use 3/64 inch braided stainless steel cable.
  - c. Use 3/16" clear cable sleeve.
  - d. 1 inch (25 mm) tensioner on both ends of the idle cable.

E. Alternative Hembar Options

- 1. External Hembar (optional 1/2 inch (12 mm) non-adhesive brush insert Grey (-80))
  - a. Extruded 6061-T6 aluminum
  - b. Color: White (-10), Ivory (-04), Silver (-20), Bronze (-50), Black (-90).
  - c. End caps available in White (-10) or Black (-90).
- 2. Round External Hembar
  - a. Extruded 6061-T6 aluminum
  - b. Color: White (-10), Ivory (-04), Silver (-20), Bronze (-50), Black (-90).
  - c. End caps available in White (-10) or Black (-90)
- 3. Round Internal Hembar
  - a. Extruded 6061-T6 aluminum wrapped inside shade hempocket.
  - b. Color coordinated with shade fabric color.
  - c. End caps available in White (-10) or Black (-90)

2.5 FABRICS

A. WT Shade Solar Protective Screen Fabrics.

- 1. Screen Fabric: 1 percent to 5 percent Openness Factor
- 2. UV Blockage: 99 percent - 95 percent.
- 3. WT Shade 132 Fabric (Openness Factor: 2 percent), Basketweave
  - a. Composition: 100 percent Polyester
  - b. Fabric Thickness: 0.021", Fabric Weight: 9.3 (OZ/YD)
  - c. Greenguard Gold Certified.
  - d. Select color from manufacturers standard colors.
- 4. WT Shade 24X Series
  - a. 241 Fabric (Openness Factor: 1 percent), 2x2 Basketweave.
    - a. Composition: 22 percent Polyester/ 78 percent PVC.
    - b. Fabric Thickness: 0.025", Fabric Weight: 15.04 (OZ/YD).
    - c. Greenguard Gold Certified; ASTM G21; ASTM E2180.
    - d. Select color from manufacturers standard colors.
  - b. 243 Fabric (Openness Factor: 3 percent), Basketweave.
    - a. Composition: 22 percent Polyester/ 78 percent PVC.
    - b. Fabric Thickness: 0.024", Fabric Weight: 13.71 (OZ/YD).
    - c. Greenguard Gold Certified; ASTM G21; ASTM E2180.
    - d. Select color from manufacturers standard colors.
  - c. 245 Fabric (Openness Factor: 5 percent), Basketweave.
    - a. Composition: 22 percent Polyester/ 78 percent PVC.
    - b. Fabric Thickness: 0.024", Fabric Weight: 12.68 (OZ/YD).
    - c. Greenguard Gold Certified; ASTM G21; ASTM E2180.
    - d. Select color from manufacturers standard colors.
- 5. WT Shade 25X Series
  - a. 253 Fabric (Openness Factor: 3 percent), 2 x 2 Basketweave.

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- a. Composition: 22 percent Polyester/ 78 percent PVC.
  - b. Fabric Thickness: 0.024", Fabric Weight: 12.7 (OZ/YD).
  - c. Greenguard Gold Certified.
  - d. Select color from manufacturers standard colors.
6. WT Shade 35X Series
- a. 351 Fabric (Openness Factor: 1 percent), Twill Weave.
    - a. Composition: 25 percent Polyester/ 75 percent PVC.
    - b. Fabric Thickness: 0.028", Fabric Weight: 14.8 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
  - b. 353 Fabric (Openness Factor: 3 percent), Twill Weave.
    - a. Composition: 25 percent Polyester/ 75 percent PVC.
    - b. Fabric Thickness: 0.026", Fabric Weight: 12.7 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
  - c. 355 Fabric (Openness Factor: 5 percent), Twill Weave.
    - a. Composition: 25 percent Polyester/ 75 percent PVC.
    - b. Fabric Thickness: 0.026", Fabric Weight: 12.1 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
- B. WT Shade Solar Protective Privacy Fabrics.
- 1. Privacy Fabric: <1 percent Openness Factor
  - 2. UV Blockage: 99 percent
  - 3. WT Shade 251 Fabric: (Openness Factor: <1 percent), 2 x 2 Basketweave.
    - a. Composition: 22 percent Polyester/ 78 percent PVC.
    - b. Fabric Thickness: 0.028", Fabric Weight: 15.2 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
  - 4. WT Shade 441 Fabric: (Openness Factor: <1 percent), Horizontal weave.
    - a. Composition: 25 percent Polyester/ 75 percent PVC.
    - b. Fabric Thickness: 0.039", Fabric Weight: 20.4 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
  - 5. WT Shade 840 Fabric: (Openness Factor: 1 percent), PVC Free Translucent Cloth.
    - a. Composition: 100 percent Polyester.
    - b. Fabric Thickness: 0.016", Fabric Weight: 6.3 (OZ/YD).
    - c. Select color from manufacturers standard colors.
- C. WT Shade Solar Protective Light Blocking Fabrics.
- 1. Blackout Fabric: 0 percent Openness Factor.
  - 2. UV Blockage: 100 percent.
  - 3. WT Shade 245B Fabric: (Openness Factor: 0 percent).
    - a. Composition: 78 percent PVC / 22 percent Polyester with White acrylic backing.
    - b. Fabric Thickness: 0.027", Fabric Weight: 18.27 (OZ/YD).
    - c. Greenguard Gold Certified; ASTM G21; ASTM E2180.
    - d. Select color from manufacturers standard colors
  - 4. WT Shade 700 Fabric: (Openness Factor: 0 percent).
    - a. Composition: 75 percent PVC / 25 percent Fiberglass.
    - b. Fabric Thickness: 0.013", Fabric Weight: 12.5 (OZ/YD).
    - c. Greenguard Gold Certified; ASTM G21.
    - d. Select color from manufacturers standard colors.
  - 5. WT Shade 762 Fabric: (Openness Factor: 0 percent).
    - a. Composition: 100 percent Polyester with White acrylic backing
    - b. Fabric Thickness: 0.014", Fabric Weight: 10.6 (OZ/YD).

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- c. Greenguard Gold Certified.
- d. Select color from manufacturers standard colors.
- 6. WT Shade 770GC Fabric: (Openness Factor: 0 percent).
  - a. Composition: 100 percent Polyester with Grey acrylic backing
  - b. Fabric Thickness: 0.018", Fabric Weight: 11.8 (OZ/YD).
  - c. Greenguard Gold Certified.
  - d. Select color from manufacturers standard colors.
- 7. WT Shade 772 Fabric: (Openness Factor: 0 percent).
  - a. Composition: 100 percent Polyester with White backing.
  - b. Fabric Thickness: 0.0236", Fabric Weight: 13.27 (OZ/YD).
  - c. Greenguard Gold Certified.
  - d. Select color from manufacturers standard colors.
- 8. WT Shade 784 Fabric: (Openness Factor: 0 percent).
  - a. Composition: 100 percent Polyester with White acrylic backing.
  - b. Fabric Thickness: 0.027", Fabric Weight: 12.1 (OZ/YD).
  - c. Greenguard Gold Certified.
  - d. Select color from manufacturers standard colors.
- D. WT Shade Decorative Sheer Fabrics:
  - 1. Sheer Fabric: 17 percent to 18 percent Openness Factor
  - 2. UV Blockage: 83 percent to 84 percent.
  - 3. WT Shade 150 Fabric (Openness Factor: 18 percent)
    - a. Composition: 100 percent Polyester.
    - b. Fabric Thickness: 0.015", Fabric Weight: 3.6 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
  - 4. WT Shade 160 Fabric (Openness Factor: 18 percent).
    - a. Composition: 100 percent Polyester.
    - b. Fabric Thickness: 0.016", Fabric Weight: 4.2 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
  - 5. WT Shade 170 Fabric (Openness Factor: 17 percent).
    - a. Composition: 100 percent Polyester.
    - b. Fabric Thickness: 0.014", Fabric Weight: 4.8 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
  - 6. WT Shade 180 Fabric (Openness Factor: 17 percent).
    - a. Composition: 100 percent Polyester.
    - b. Fabric Thickness: 0.017", Fabric Weight: 5.0 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
- E. WT Shade Printed Fabrics
  - 1. Printed Fabric: 0 percent to 3 percent Openness Factor
  - 2. UV Blockage: 100 percent to 97 percent.
  - 3. WT Shade 251 Fabric (Openness Factor: <1 percent), 2 x 2 Basketweave.
    - a. Composition: 22 percent Polyester/ 78 percent PVC.
    - b. Fabric Thickness: 0.028", Fabric Weight: 15.2 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.
  - 4. WT Shade 253 Fabric (Openness Factor: 3 percent), 2 x 2 Basketweave.
    - a. Composition: 22 percent Polyester/ 78 percent PVC.
    - b. Fabric Thickness: 0.024", Fabric Weight: 12.7 (OZ/YD).
    - c. Greenguard Gold Certified.
    - d. Select color from manufacturers standard colors.

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- 5. WT Shade 700 Fabric: (Openness Factor: 0 percent).
  - a. Composition: 75 percent Vinyl / 25 percent Fiberglass.
  - b. Fabric Thickness: 0.013", Fabric Weight: 12.5 (OZ/YD).
  - c. Greenguard Gold Certified.
  - d. Select color from manufacturers standard colors.
- 6. WT Shade 740 Fabric: (Openness Factor: 0 percent).
  - a. Composition: 100 percent Polyester.
  - b. Fabric Thickness: 0.013", Fabric Weight: 7.96 (OZ/YD).
  - c. Greenguard Gold Certified.
  - d. Select color from manufacturers standard colors.

F. Additional Fabric Options

- 1. Mermet®: [www.mermetusa.com](http://www.mermetusa.com)
- 2. SheerWeave® by Phifer: [www.phifer.com](http://www.phifer.com)

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. 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. Test for proper operation and adjust until satisfactory results are obtained.
  - 1. Verify child safety tension device or chain guard is installed correctly.

3.4 PROTECTION

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

END OF SECTION

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