



SECTION 05 51 33
METAL LADDERS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Fixed Ladder Systems:
 - 1. Angled fixed ladders. (RL20 Series).
 - 2. Standard fixed ladders. (RL30 Series).
 - 3. Caged fixed ladders. (RL40 Series).
- B. Ladder Accessories:
 - 1. Ladder fall arrest system.
 - 2. Ladder security door.
 - 3. Cage security gate.
 - 4. Self-closing gate.
- C. Folding Ladder Systems:
 - 1. Fold down ladders. (RL60 Series).
 - 2. Fold down ladders suspension frames and ceiling ladder kits.

1.2 RELATED SECTIONS

- A. Section 05 12 13 - Architecturally-Exposed Structural Steel Framing.
- B. Section 05 55 00 - Metal Stair Treads and Nosings.
- C. Section 06 10 00 - Rough Carpentry.
- D. Section 07 42 00 - Wall Panels.

1.3 REFERENCES

- A. Occupational Safety and Health Administration of the United States (OSHA):
 - 1. OSHA 1910.23: Fixed Ladders.
 - 2. OSHA 1910.29: Fall Protection systems and falling object protection.
- B. American National Standards Institute (ANSI):
 - 1. ANSI A14.3: Ladders - Fixed - Safety Requirements.

1.4 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 plan, section, elevation and perspective view drawings as necessary to depict appropriate installation procedures including location, mounting, attachment, and penetration flashing as applicable.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten years experience.
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with a minimum of five years demonstrated experience in installing products of the same type and scope as specified.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Finish areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Rebuild mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation. Protect all components off the ground, away from standing water on a hard, level surface.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.8 WARRANTY

- A. Warranty: At project closeout, submit an executed copy of the manufacturer's five year standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Kattsafe, located at: 5199 E 500 S, Suite 100; Whitestown, IN 46075, available exclusively through Logistics Lighting with an extended warranty and National Account pricing. Contact for quotes or product questions: Sales@LogisticsLighting.com or 307-633-9696 or Toll-Free at 844-455-7283 website: www.LogisticsLighting.com
- B. Substitutions: Not permitted.

2.2 RL20 SERIES MINI ACCESS LADDERS

- A. Description: Modular Angled Aluminum Fixed Ladder for safe access between minimal elevation changes.
- B. Model RL21: Angled Fixed Ladder with Grabrails.
 - 1. Material: High tensile 6106-T6 aluminum, mill finish.
 - 2. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 - 3. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 - 4. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 - 5. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- C. Model RL22: Angled fixed ladder with parapet platform.
 - 1. Material: High tensile 6106-T6 aluminum, mill finish.
 - 2. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 - 3. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 - 4. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 - 5. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- D. Model RL23: Angled fixed ladder with 8 ft (2438 mm) walkway.
 - 1. Material: High tensile 6106-T6 aluminum, mill finish.
 - 2. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 - 3. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 - 4. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 - 5. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- E. Model RL25: Angled fixed ladder with 3 ft (914 mm) walkway.
 - 1. Material: High tensile 6106-T6 aluminum, mill finish.
 - 2. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 - 3. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 - 4. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 - 5. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- F. Ladder Base Mounting and Walkway Mounting Kit:
 - 1. Ladder Base Mount Option One: Non-penetrating 24 x 12 inches (610 x 305 mm) aluminum base plate for membrane and built-up roof systems.
 - 2. Ladder Base Mount Option Two: Floor mount bracket set for finished floors.
 - 3. LDWK.01: Non-penetrating weighted base kit for membrane roof systems for 8 ft (2438 mm) walkway.
 - 4. LDWK.02: Non-penetrating clamp kit for standing seam roof systems for 8 ft (2438 mm) walkway.
 - 5. LDWK.03: Fastening kit for metal roof systems for 8 ft (2438 mm) walkway.
 - 6. LDWK.04: Non-penetrating weighted base kit for membrane roof systems for 3 ft (914 mm) walkway.
 - 7. LDWK.05: Non-penetrating clamp kit for standing seam roof systems for 3 ft (914 mm) walkway.
 - 8. LDWK.06: Fastening kit for metal roof systems for 3 ft (914 mm) walkway.

2.3 RL30 SERIES STANDARD ACCESS LADDERS

- A. Modular Vertical Aluminum Fixed Ladder for safe access to elevated areas. Ladder fall arrest system required on all ladders extending more than 24 ft (7.3 m).
- B. Model RL31: Standard fixed ladder with grabrails.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm)
 4. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 5. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 6. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- C. Model RL32: Standard fixed ladder with parapet platform.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 4. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 5. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 6. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- D. Model RL33: Standard fixed ladder with 8 ft (2438 mm) walkway.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 4. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 5. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 6. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- E. Model RL34: Standard fixed ladder for roof hatch access.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm).
 4. Retractable Stile Set: Stiles can be retracted to allow for safe access through the roof hatch.
 5. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 6. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 7. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- F. Model RL35: Standard fixed ladder with 3 ft (914 mm) walkway.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 4. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 5. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.

6. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- G. Ladder Base Mounting and Walkway Mounting Kit:
1. Ladder Base Mount Option One: Non-penetrating 24 x 12 inches (610 x 305 mm) aluminum base plate for membrane and built-up roof systems.
 2. Ladder Base Mount Option Two: Off-floor mount fixing bracket, heavy duty wall fixing bracket for ladders mounted to the wall only.
 3. Ladder Base Mount Option Three: Floor mount bracket set for finished floors.
 4. LDWK.01: Non-penetrating weighted base kit for membrane roof systems for 8 ft (2438 mm) walkway.
 5. LDWK.02: Non-penetrating clamp kit for standing seam roof systems for 8 ft (2438 mm) walkway.
 6. LDWK.03: Fastening kit for metal roof systems for 8 ft (2438 mm) walkway.
 7. LDWK.04: Non-penetrating weighted base kit for membrane roof systems for 3 ft (914 mm) walkway.
 8. LDWK.05: Non-penetrating clamp kit for standing seam roof systems for 3 ft (914 mm) walkway.
 9. LDWK.06: Fastening kit for metal roof systems for 3 ft (914 mm) walkway.

2.4 RL40 SERIES CAGED ACCESS LADDERS:

- A. Modular Caged Aluminum Fixed Ladder for safe access to elevated areas. Cages are not a compliant form of fall protection on fixed ladders installed on or after November 19, 2018 that extend more than 24 ft (7.3 m); a ladder safety system or personal fall arrest system is required (29 CFR 1910.28(b)(9)). Cages may remain only as a supplemental guard.
- B. Model RL41: Caged fixed ladder with grabrails.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 4. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 5. Cage Weight: 18 lbs (8.16 kg) per 40 inch (1016 mm) section.
 6. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 7. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- C. Model RL42: Caged fixed ladder with parapet platform.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 4. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 5. Cage Weight: 18 lbs (8.16 kg) per 40 inch (1016 mm) section.
 6. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 7. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- D. Model RL43: Caged fixed ladder with 8 ft (2438 mm) walkway.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 4. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 5. Cage Weight: 18 lbs (8.16 kg) per 40 inch (1016 mm) section.

6. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 7. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- E. Model RL44: Caged fixed ladder for roof hatch access.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm).
 4. Retractable stile set: Stiles can be retracted to allow for safe access through the roof hatch.
 5. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 6. Cage Weight: 18 lbs (8.16 kg) per 40 inch (1016 mm) section.
 7. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 8. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- F. Model RL45: Caged fixed ladder with 3 ft (914 mm) walkway.
1. Material: High tensile 6106-T6 aluminum, mill finish.
 2. Ladder Height: Fall protection required over 24 ft (7320 mm). See ' Ladder Fall Arrest System' under ' Ladder Accessories.'
 3. Ladder Width: 23-1/2 inches (597 mm). Walk-Through Width: 24 inches (610 mm).
 4. Ladder Weight: 6.4 lbs (2.9 kg) per 40 inch (1016 mm) section.
 5. Cage Weight: 18 lbs (8.16 kg) per 40 inch (1016 mm) section.
 6. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 7. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- G. Ladder Base Mounting and Walkway Mounting Kit:
1. Ladder Base Mount Option One: Non-penetrating 24 x 12 inches (610 x 305 mm)aluminum base plate for membrane and built-up roof systems.
 2. Ladder Base Mount Option Two: Off-floor mount fixing bracket, heavy duty wall fixing bracket for ladders mounted to the wall only.
 3. Ladder Base Mount Option Three: Floor mount bracket set for finished floors.
 4. LDWK.01: Non-penetrating weighted base kit for membrane roof systems for 8 ft (2438 mm) walkway.
 5. LDWK.02: Non-penetrating clamp kit for standing seam roof systems for 8 ft (2438 mm) walkway.
 6. LDWK.03: Fastening kit for metal roof systems for 8 ft (2438 mm) walkway.
 7. LDWK.04: Non-penetrating weighted base kit for membrane roof systems for 3 ft (914 mm) walkway.
 8. LDWK.05: Non-penetrating clamp kit for standing seam roof systems for 3 ft (914 mm) walkway.
 9. LDWK.06: Fastening kit for metal roof systems for 3 ft (914 mm) walkway.

2.5 FIXED LADDER ACCESSORIES

- A. Ladder Fall Arrest System:
1. Model RL50SYS: Fall arrest kit includes fall arrest mounting brackets, tensioner, termination device, sign and stainless hardware.
 2. Model SL228.10: Arresta Shuttle locking device with energy absorbing lanyard (1 required per user).
 3. Model SL230F: Stainless steel (316) cable. Length to suit ladder height.
 4. Capacity: For single person use; 1400 lbs (635 kg) rated.

5. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.29 and ANSI A14.3.
- B. Model LD426: Ladder Security Door. Aluminum security door to prevent unauthorized access. 84 x 25-1/2 inches (2134 x 648 mm).
- C. Model LD425: Ladder Cage Gate. Aluminum gate to prevent unauthorized access. 37 x 30-5/8 inches (940 x 778 mm).
- D. Model GW390: Self-Closing Gate. Aluminum gate for mounting at the end of the walkway kits or parapet platforms.

2.6 RL60 SERIES FOLD DOWN ACCESS LADDERS AND SUSPENSION KITS

- A. Model RL62: Vista Commercial Fold Down Ladder.
 1. Material: High tensile aluminum, mill finish.
 2. Opening Size: 48 x 31 inches (1219 x 787 mm).
 3. Ladder Height Range: 7 to 10 ft (2134 to 3048 mm).
 4. Ladder Width: 23-1/2 inches (597 mm).
 5. Unit Weight: 88 lbs (40 kg).
 6. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 7. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- B. Model RL63: Vista Maxi Fold Down Ladder.
 1. Material: High tensile aluminum, mill finish.
 2. Opening Size: 64 x 31 inches (1626 x 787 mm).
 3. Ladder Height Range: 7 to 14 ft (2134 to 4267 mm).
 4. Unit Weight: 88 lbs (40 kg).
 5. Capacity: Unit shall support a 1000 lbs (453.6 kg) loading without failure, and individual treads shall withstand a 1000 lbs (453.6 kg) loading without failure.
 6. Performance Standard: Units designed and manufactured to meet or exceed OSHA 1910.23.
- C. Ladder Suspension Frame and Ceiling Ladder Kit:
 1. Model RL62: Height: As required between roof structure and suspended ceiling. Suspension kit can be cut to required height in the field.
 2. Model RL63: Height: As required between roof structure and suspended ceiling. Suspension kit can be cut to required height in the field.

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, approved submittals, and in proper relationship with adjacent construction.

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