

**D & M Painting**  
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**D & M Painting**  
**1759 North Batavia Street**  
**Orange, CA 92865**

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### D & M PAINTING LADDER SAFETY PLAN

#### 1. LADDER SAFETY PLAN

Ladders present opportunities for unsafe acts and unsafe conditions. D & M Painting employees who use ladders will be trained in proper selection, inspection, use and storage. Improper use of ladders has caused a large percentage of accidents in the workplace.

#### 2. LADDER DEFINITIONS

**"Cleat"** means a ladder crosspiece of rectangular cross section placed on edge upon which a person may step while ascending or descending a ladder.

**"Double-cleat ladder"** means a ladder similar in construction to a single-cleat ladder, but with a center rail to allow simultaneous two-way traffic for employees ascending or descending.

**"Equivalent"** means alternative designs, materials, or methods that the employer can demonstrate will provide an equal or greater degree of safety for employees than the method or item specified in the standard.

**"Extension trestle ladder"** means a self-supporting portable ladder, adjustable in length consisting of a trestle ladder base and a vertically adjustable extension section, with a suitable means for locking the ladders together.

**"Failure"** means load refusal, breakage or separation of component parts. Load refusal is the point where the structural members lose their ability to carry the loads.

**"Fixed-ladder"** means a ladder that cannot be readily moved or carried because it is an integral part of a building or structure. A side-step fixed ladder is a fixed ladder that requires a person getting off at the top to step to the side of the ladder side rails to reach the landing. A through fixed ladder is a fixed ladder that requires a person getting off at the top to step between the side rails of the ladder to reach the landing.

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**"Handrail"** means a rail used to provide employees with a handhold for support.

**"Individual-rung/step ladders"** means ladders without a side rail or center rail support. These ladders are made by mounting individual steps or rungs directly to the side or wall of the structure.

**"Job-made ladder"** means a ladder that is fabricated by employees, typically at the construction site, and is not commercially manufactured. This definition does not apply to any individual-rung/step ladders.

**"Ladder stand"** A mobile fixed size self-supporting ladder consists of a wide flat tread ladder in the form of stairs. The assembly may include handrails.

**"Lower levels"** means those areas to which an employee can fall from a stairway or ladder. Such areas include ground levels, floors, roofs, ramps, runways, excavations, pits, tanks, material, water, equipment, and similar surfaces. It does not include the surface from which the employee falls.

**"Maximum intended load"** means the total load of all employees, equipment, tools, materials, transmitted loads, and other loads anticipated to be applied to a ladder component at any one time.

**"Nosing"** means that portion of a tread projecting beyond the face of the riser immediately below.

**"Point of access"** means all areas used by employees for work related passage from one area or level to another. Such open areas include doorways, passageways, stairway openings, studded walls, and various other permanent or temporary openings used for such travel.

**"Portable ladder"** means a ladder that can be readily moved or carried.

**"Riser height"** means the vertical distance from the top of a tread to the top of the next higher tread or platform/landing or the distance from the top of a platform/landing to the top of the next higher tread or platform/landing.

**"Side-step fixed ladder"** See **"Fixed ladder"**

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**"Single-cleat ladder"** means a ladder consisting of a pair of side rails, connected together by cleats, rungs, or steps.

**"Single-rail ladder"** means a portable ladder with rungs, cleats, or steps mounted on a single rail instead of the normal two rails used on most other ladders.

**"Spiral stairway"** means a series of steps attached to a vertical pole and progressing upward in a winding fashion within a cylindrical space.

**"Stair rail system"** means a vertical barrier erected along the unprotected sides and edges of a stairway to prevent employees from falling to lower levels. The top surface of a stair rail system may also be a "handrail."

**"Step stool (ladder type)"** means a self-supporting, foldable, portable ladder, nonadjustable in length, 32 inches or less in overall size, with flat steps and without a pail shelf, and designed to be climbed on the ladder top cap as well as all steps. The side rails may continue above the top cap.

**"Through fixed ladder"** See **"Fixed ladder"**

**"Tread depth"** means the horizontal distance from front to back of a tread (excluding nosing, if any).

**"Unprotected sides and edges"** means any side or edge (except at entrances to points of access) of a stairway where there is no stair rail system or wall 36 inches (.9 m) or more in height, and any side or edge (except at entrances to points of access) of a stairway landing, or ladder platform where there is no wall or guardrail system 39 inches (1 m) or more in height.

### 3. LADDER HAZARDS

Falls are the primary hazard associated with the use of ladders. Falls result from a number of unsafe acts and conditions such as:

1. Ladders being set on unstable surfaces.
2. Personnel reaching too far out to the sides.

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3. Personnel standing too high to maintain balance.
4. Personnel using defective ladders (e.g., broken rails, rungs, missing hardware).

These hazards are minimized if workers adhere to proper ladder safety practices and if supervisors ensure equipment is used, inspected, and maintained in good condition. D & M Painting workers capable of the physical exertion required for these conditions will accomplish tasks that require the frequent use of ladders and involve significant climbing efforts.

#### **4. PROCUREMENT**

Portable ladders procured for D & M Painting will meet the design and construction specifications of OSHA 29 CFR 1910.25 for wood ladders and 29 CFR 1910.26 for metal ladders. Portable ladders constructed of reinforced plastic will meet the specifications of ANSI A14.5-1974.

#### **5. LADDER REQUIREMENTS**

The following requirements apply to all D & M Painting ladders as indicated, including job-made ladders.

1. D & M Painting ladders will be capable of supporting the following loads without failure:
  - a. Each self-supporting portable ladder: At least four times the maximum intended load, except that each extra-heavy-duty type 1A metal or plastic ladder will sustain at least 3.3 times the maximum intended load. The ability of a ladder to sustain the loads indicated in this paragraph will be determined by applying or transmitting the requisite load to the ladder in a downward vertical direction.
  - b. Each portable ladder that is not self-supporting: At least four times the maximum intended load, except that each extra-heavy-duty type 1A metal or plastic ladders will sustain at least 3.3 times the maximum intended load. The ability of a ladder to sustain the loads

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indicated will be determined by applying or transmitting the requisite load to the ladder in a downward vertical direction when the ladder is placed at an angle of 75½ degrees from the horizontal.

- c. Each fixed ladder: At least two loads of 250 pounds (114 kg) each, concentrated between any two consecutive attachments (the number and position of additional concentrated loads of 250 pounds (114 kg) each, determined from anticipated usage of the ladder, will also be included), plus anticipated loads caused by ice buildup, winds, rigging, and impact loads resulting from the use of ladder safety devices.
    - d. Each step or rung will be capable of supporting a single concentrated load of at least 250 pounds (114 kg) applied in the middle of the step or rung.
  2. D & M Painting ladder rungs, cleats, and steps will be parallel, level, and uniformly spaced when the ladder is in position for use.
    - a. Rungs, cleats, and steps of portable ladders (except as provided below) and fixed ladders (including individual rung/step ladders) will be spaced not less than 10 inches (25 cm) apart, nor more than 14 inches (36 cm) apart, as measured between center lines of the rungs, cleats and steps.
    - b. Rungs, cleats, and steps of step stools will be not less than 8 inches (20 cm) apart, nor more than 12 inches (31 cm) apart, as measured between center lines of the rungs, cleats, and steps.
    - c. Rungs, cleats, and steps of the base section of extension trestle ladders will be not less than 8 inches (20 cm) nor more than 18 inches (46 cm) apart, as measured between center lines of the rungs, cleats, and steps.
    - d. The rung spacing on the extension section of the extension trestle ladder will be not less than 6 inches (15 cm) nor more than 12 inches (31 cm), as measured between center lines of the rungs, cleats and steps.

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- e. The minimum clear distance between the sides of individual-rung/step ladders and the minimum clear distance between the side rails of other fixed ladders will be 16 inches (41 cm).
      - f. The minimum clear distance between side rails for all portable ladders will be 11½ inches (29 cm).
- 3. The rungs of individual-rung/step ladders will be shaped such that employees' feet cannot slide off the end of the rungs.
  - a. The rungs and steps of fixed metal ladders manufactured after March 15, 1991, will be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.
  - b. The rungs and steps of portable metal ladders will be corrugated, knurled, dimpled, coated with skid-resistant material, or otherwise treated to minimize slipping.
- 4. Ladders will not be tied or fastened together to provide longer sections unless they are specifically designed for such use.
- 5. A metal spreader or locking device will be provided on each stepladder to hold the front and back sections in an open position when the ladder is being used.
- 6. When splicing is required to obtain a given length of side rail, the resulting side rail will be at least equivalent in strength to a one-piece side rail made of the same material.
- 7. Except when portable ladders are used to gain access to fixed ladders (such as those on utility towers, billboards, and other structures where the bottom of the fixed ladder is elevated to limit access), when two or more separate ladders are used to reach an elevated work area, the ladders will be offset with a platform or landing between the ladders.
- 8. Ladder components will be surfaced so as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.



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9. Wood ladders will not be coated with any opaque covering, except for identification or warning labels that is placed on one face of a side rail.
10. The minimum perpendicular clearance between fixed ladder rungs, cleats, and steps, and any obstruction behind the ladder will be 7 inches (18 cm), except in the case of an elevator pit ladder, for that a minimum perpendicular clearance of 4½ inches (11 cm) is required.
11. The minimum perpendicular clearance between the center line of fixed ladder rungs, cleats, and steps, and any obstruction on the climbing side of the ladder will be 30 inches (76 cm), except as provided in paragraph (a)(15) of this section.
12. When unavoidable obstructions are encountered, the minimum perpendicular clearance between the centerline of fixed ladder rungs, cleats, and steps, and the obstruction on the climbing side of the ladder may be reduced to 24 inches (61 cm), provided that a deflection device is installed to guide employees around the obstruction.
13. Through fixed ladders at their point of access/egress will have a step-across distance of not less than 7 inches (18 cm) or more than 12 inches (30 cm) as measured from the centerline of the steps or rungs to the nearest edge of the landing area. If the normal step-across distance exceeds 12 inches (30 cm), a landing platform will be provided to reduce the distance to the specified limit.
14. Fixed ladders without cages or wells will have a clear width to the nearest permanent object of at least 15 inches (38 cm) on each side of the centerline of the ladder.
15. Fixed ladders will be provided with cages, wells, ladder safety devices, or self-retracting lifelines where the length of climb is less than 24 feet (7.3 m) but the top of the ladder is at a distance greater than 24 feet (7.3 m) above lower levels.
16. Where the total length of a climb equals or exceeds 24 feet (7.3 m), fixed ladders will be equipped with one of the following:
  - a. Ladder safety devices; or

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- b.** Self-retracting lifelines, and rest platforms at intervals not to exceed 150 feet (45.7 m).
  - c.** A cage or well, and multiple ladder sections, each ladder section not to exceed 50 feet (15.2 m) in length.
  - d.** Ladder sections will be offset from adjacent sections, and landing platforms will be provided at maximum intervals of 50 feet (15.2 m).
- 17.** Cages for fixed ladders will conform to all of the following:
  - a.** Horizontal bands will be fastened to the side rails of rail ladders, or directly to the structure, building, or equipment for individual- rung ladders;
  - b.** Vertical bars will be on the inside of the horizontal bands and will be fastened to them;
  - e.** Cages will extend not less than 27 inches (68 cm), or more than 30 inches (76 cm) from the centerline of the step or rung (excluding the flare at the bottom of the cage), and will not be less than 27 inches (68 cm) in width;
  - f.** The inside of the cage will be clear of projections;
  - g.** Horizontal bands will be spaced not more than 4 feet (1.2 m) on center vertically;
  - h.** Vertical bars will be spaced at intervals not more than 9½ inches (24 cm) on center horizontally;
  - i.** The bottom of the cage will be at a level not less than 7 feet (2.1 m) nor more than 8 feet (2.4 m) above the point of access to the bottom of the ladder.
  - j.** The bottom of the cage will be flared not less than 4 inches (10 cm) all around within the distance between the bottom horizontal band and the next higher band.

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- k. The top of the cage will be a minimum of 42 inches (1.1 m) above the top of the platform, or the point of access at the top of the ladder, with provision for access to the platform or other point of access.
18. Wells for fixed ladders will conform to all of the following:
- a. They will completely encircle the ladder;
  - b. They will be free of projections;
  - c. Their inside face on the climbing side of the ladder will extend not less than 27 inches (68 cm) nor more than 30 inches (76 cm) from the centerline of the step or rung;
  - d. The inside clear width will be at least 30 inches (76 cm);
  - e. The bottom of the wall on the access side will start at a level not less than 7 feet (2.1 m) nor more than 8 feet (2.4 m) above the point of access to the bottom of the ladder.
19. Ladder safety devices, and related support systems, for fixed ladders will conform to all of the following:
- a. They will be capable of withstanding without failure a drop test consisting of an 18-inch (41 cm) drop of a 500-pound (226 kg) weight;
  - b. They will permit the employee using the device to ascend or descend without continually having to hold, push or pull any part of the device, leaving both hands free for climbing;
  - c. They will be activated within 2 feet (.61 m) after a fall occurs, and limit the descending velocity of an employee to 7 feet/sec. (2.1 m/sec.) or less;
  - d. The connection between the carrier or lifeline and the point of attachment to the body belt or harness will not exceed 9 inches (23 cm) in length.

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- 20.** Mounting of ladder safety devices for fixed ladders will be the following:

  - a.** Mountings for rigid carriers will be attached at each of the carrier, with intermediate mountings, as necessary, spaced along the entire length of the carrier, to provide the strength necessary to stop employees' falls.
  - b.** Mountings for flexible carriers will be attached at each end of the carrier. When the system is exposed to wind, cable guides for flexible carriers will be installed at a minimum spacing of 25 feet (7.6 m) and maximum spacing of 40 feet (12.2 m) along the entire length of the carrier, to prevent wind damage to the system.
  - c.** The design and installation of mountings and cable guides will not reduce the design strength of the ladder.
- 21.** The side rails of through or side-step fixed ladders will extend 42 inches (1.1 m) above the top of the access level or landing platform served by the ladder.
- 22.** For a parapet ladder, the access level will be the roof if the parapet is cut to permit passage through the parapet; if the parapet is continuous, the access level will be the top of the parapet.
- 23.** For through-fixed-ladder extensions, the steps or rungs will be omitted from the extension of the side rails will be flared to provide not less than 24 inches (61 cm) or more than 30 inches (76 cm) clearance between side rails.
- 24.** Where ladder safety devices are provided, the maximum clearance between side rails of the extensions will not exceed 36 inches (91 cm).
- 25.** For side-step fixed ladders, the side rails and the steps or rungs will be continuous in the extension.
- 26.** Individual-rung/step ladders, except those used where their access openings are covered with manhole covers or hatches, will extend at least 42 inches (1.1 m) above an access level or landing platform either by the

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continuation of the rung spacing as horizontal grab bars or by providing vertical grab bars that will have the same lateral spacing as the vertical legs of the rungs.

#### **6. USE OF LADDERS**

D & M Painting employees will follow requirements that apply to the use of all ladders, including job-made ladders, except as otherwise indicated. The correct procedures for using ladders are as follows:

1. When portable ladders are used for access to an upper landing surface, the ladder side rails will extend at least 3 feet (.9 m) above the upper landing surface so that the ladder is used to gain access.
2. When such an extension is not possible because of the ladder's length, then the ladder will be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grab rails, will be provided to assist employees in mounting and dismounting the ladder. In no case will the extension be such that ladder deflection under a load would, by itself, cause the ladder to slip off its support.
3. Ladders will be maintained free of oil, grease, and other slipping hazards.
4. Ladders will not be loaded beyond the maximum intended load for that they were built, or beyond their manufacturer's rated capacity.
5. Ladders will be used only for the purpose for that they were designed.
  - a. Non-self-supporting ladders will be used at an angle such that the horizontal distance from the top support to the foot of the ladder is approximately one-quarter of the working length of the ladder (the distance along the ladder between the foot and the top support).
  - b. Wood job-made ladders with spliced side rails will be used at an angle such that the horizontal distance is one-eighth the working length of the ladder.
  - c. Fixed ladders will be used at a pitch no greater than 90 degrees from the horizontal, as measured to the backside of the ladder.

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6. Ladders will be used only on stable and level surfaces unless secured to prevent accidental displacement.
7. D & M Painting will not permit ladders be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement.
8. Slip-resistant feet will not be used as a substitute for care in placing, lashing, or holding a ladder that is used upon slippery surfaces including, but not limited to, flat metal or concrete surfaces that are constructed so they cannot be prevented from becoming slippery.
9. D & M Painting ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or driveways will be secured to prevent accidental displacement, or a barricade will be used to keep the activities or traffic away from the ladder.
10. The area around the top and bottom of ladders will be kept clear.
11. The top of a non-self-supporting ladder will be placed with the two rails supported equally unless it is equipped with a single support attachment.
12. Ladders will not be moved, shifted, or extended while occupied.
13. Ladders will have nonconductive side rails if they are used where the employee or the ladder could contact exposed energized electrical equipment.
14. The top or top step of a stepladder will not be used as a step.
15. Cross-bracing on the rear section of stepladders will not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
16. Ladders will be inspected by a competent person for visible defects on a periodic basis and after any occurrence that could affect their safe use.

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17. Portable ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components, will either be immediately marked in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and will be withdrawn from service until repaired.
18. Fixed ladders with structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, or corroded components, will be withdrawn from service until repaired. The requirement to withdraw a defective ladder from service is satisfied if the ladder is either:
  - a. Immediately tagged with "**Do Not Use**" or similar language;
  - b. Marked in a manner that readily identifies it as defective.
  - c. Or blocked (such as with a plywood attachment that spans several rungs).
19. Ladder repairs will restore the ladder to a condition meeting its original design criteria, before the ladder is returned to use.
20. Single-rail ladders will not be used.
21. When ascending or descending a ladder, the user will face the ladder.
22. Each employee will use at least one hand to grasp the ladder when progressing up and/or down the ladder.
23. An employee will not carry any object or load that could cause the employee to lose balance and fall.

**7. CARE OF LADDERS**

1. Handle ladders with care. Do not drop, jar or misuse them.

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2. Ladders will be stored in a manner that will provide easy access for inspection and will permit safe withdrawal for use. They will not be stored in a manner that presents a tripping hazard not where they can fall on someone. They will be stored in a manner that will prevent sagging.
3. Lubricate metal bearings of locks, wheels, pulleys, etc., as required to keep them working.
4. Replace frayed or badly worn rope.
5. Keep safety feet and other parts in good condition to ensure they work.
6. Maintain ladders in good usable condition. Inspect ladders prior to use.
7. Ladders with defects that cannot be immediately repaired, will be removed from service for repair or destruction, and will be tagged with a danger tag.
8. Do not attempt to straighten or use a bent ladder made of reinforced plastic.
9. Rungs or steps on metal ladders that are not corrugated, knurled, or dimpled will have skid-resistant materials applied. D & M Painting will take ladders that are unsafe out of use.



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**Portable Ladders Self-Audit Safety Questions**

- YES - NO** Are all ladders maintained in good condition, joints between steps and side rails tight, all hardware and fittings securely attached, and moveable parts operating freely without binding or undue play?
- YES - NO** Are non-slip safety feet provided on each metal or rung ladder?
- YES - NO** Are ladder rungs and steps free of grease and oil and inspected for damage?
- YES - NO** Is it prohibited to place a ladder in front of doors opening toward the ladder except when the door is blocked open, locked or guarded?
- YES - NO** Is it prohibited to place ladders on boxes, barrels, or other unstable bases to obtain additional height?
- YES - NO** Are employees instructed to face the ladder when ascending or descending?
- YES - NO** Are employees prohibited from using ladders that are broken, missing steps, rungs, or cleats, broken side rails or other faulty equipment?
- YES - NO** Are employees instructed not to use the top step of ordinary stepladders as a step?
- YES - NO** When portable rung ladders are used to gain access to elevated platforms, roofs and the like, does the ladder always extend at least 3 feet above the elevated surface?
- YES - NO** Is it required that when portable rung or cleat type ladders are used, the base is so placed that slipping will not occur, or it is lashed or otherwise held in place?
- YES - NO** Are portable metal ladders legibly marked with signs reading "**CAUTION**" "**Do Not Use Around Electrical Equipment**" or equivalent wording?
- YES - NO** Are employees prohibited from using ladders as guys, braces, skids, gin poles, or for other than their intended purposes.
- YES - NO** Are employees instructed to only adjust extension ladders while standing at a base (not while standing on the ladder or from a position above the ladder)?
- YES - NO** Are the rungs of metal ladders uniformly spaced at 12 inches, center to center?

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**Reviewer's Signature:** \_\_\_\_\_

**Date Conducted:** \_\_\_\_\_