

MAINTENANCE GUIDEBOOK VI - PAINTING MAINTENANCE

CHAPTER FOUR - APPLICATION PROCEDURES

SECTION A APPLICATION PROCEDURES FOR EXTERIORS

1. GENERAL

All paint applications should be done in conformance with the paint manufacturer's instructions to achieve maximum benefits from the coating and any guarantees offered. Instructions are normally given for surface preparation, mixing, spread rates, and drying times in addition to recommended application tools and methods.

2. PAINTING ERRORS TO AVOID

Painting under the following conditions will produce unsatisfactory results:

- When the temperature is under 50 degrees F;
- When there are sudden drops in temperature;
- Immediately after rain;
- When wood is not thoroughly dry;
- Before the morning dew has dried;
- In direct sunlight, which can cause blistering;
- In strong wind, which may collect dust or flying insects on the fresh paint;
- In a strong hot wind, which can cause the paint to skin over and wrinkle.

3. PROTECTION OF ADJACENT SURFACES

Drop cloths or plastic sheets should be used to protect the work area, in particular under buckets and pails, in case they are toppled. Plastic sheets should be at least 4 mils thick, since lightweight plastic (less than 4 mils thick) has a tendency to bellow up and tangle in the workers' feet. All plastic sheeting used outside should be weighted at the edges to keep wind from bellowing it.

Plastic drop cloths should not be used to cover plants and other foliage, since sunlight passing through the plastic can "cook" the plants. Cloth drop cloths and tarps should be adequately supported by something other than the plants, which can be matted down or have branches broken by their weight. Where practicable, lightweight corrugated fiberglass sheets can be leaned against or attached to buildings to protect vegetation without undue sun stress or weight on the plants.

When working on a sloped roof, use carpet padding to protect the roof from paint drops and spills. The padding also provides a comfortable surface to work on. Masking tape and paper is one means to protect adjacent surfaces, but it is time-consuming to apply and remove. In addition, unless the tape is tightly affixed, paint has a tendency to seep under it, making clean-up even more difficult. Use of a top-quality brush reduces the chance of dripping paint where it is not wanted.

4. APPLICATION TOOLS

a. Brushes

Brushes are usually made of natural, nylon, or polyester bristles.

- **Natural bristle** brushes usually use hog bristles, and are best for applying oil-based paints, alkyd enamels, and varnishes. This type of bristle is superior in its ability to deposit a smooth film where it is wanted.
- **Nylon bristle** brushes are best used with water-based paints, although they may lose some of their spring after long exposure to water-based paints in hot temperatures. The nylon bristle does not stand up well to the strong solvents in many high-performance coatings, such as two-component solvent-based epoxies.
- **Polyester bristle** brushes are best suited for water-based coatings because they retain their stiffness even when subjected to high heat and humidity. In addition they have good resistance to strong solvents and acids.

All of these bristles are available in a wide variety of brush styles and sizes, each designed for a special job. The three most useful and popular styles are sash-and-trim brushes, flat wall brushes, and varnish brushes. Varnish brushes are also known as enamel brushes, and should more properly be called panel brushes.

- **Sash and trim brushes** come in two basic styles and in sizes from 1-inch to 3-inches wide. Bristle length ranges from 2 to 4-1/2 inches long with tapered sides. The flat sash brush is square-edged, like most conventional brushes, and is used for narrow flat areas such as baseboards, moldings, eaves, window trim, sashes, and shutters. The most popular size is 2 inches wide. Angular brushes have the brush edge set at an angle to make edging more accurate since the fine trim line is at the point of the brush. This brush is most useful for edging walls before rolling, or for trimming windows, woodwork, and doors. The most popular size for edging walls is 2-1/2 inches, for painting a sash, 2-inches.
- **Flat wall brushes** are used for painting large flat areas such as walls, siding, ceilings, floors decks, and roofs. Wall brushes are available in widths ranging from 3 to 6 inches. The most popular size is 4 inches wide, with a 4-inch long bristle, and about 1-inch thick.

- **Enamel and varnish brushes (panel brushes)** are made in sizes from 2 to 4 inches. Most are chisel-shaped, which means that the bristles come to a sharp edge, like a chisel. The most popular size is the 3 inch, used mostly for cabinets, baseboards, moldings, trim, and doors.

b. Rollers

Rollers come in styles and widths ranging from 3 to 36 inches. Most used by professionals is the nine-inch width because it is available in a wider variety of configurations and roller-cover fabrics. It is easy and comfortable to handle even when working overhead. Its paint-holding capacity allows painting with a minimum of stops for refilling. Roller parts include the following:

- **Handles (Frames):**

Cost-effective handles have the following features:

- Strong, long, sturdy, and rust-resistant;
- Strong, comfortable, solvent- and water-resistant;
- Threaded to accept an extension pole;
- Extension lip on handle to permit hanging roller in a five-gallon bucket without immersing the cover;
- Strong, rust-resistant cage;
- Nylon end caps and bearings. (A drop of oil applied to each of the bearings after cleaning will prevent residue hardening.)

- **Covers:**

Covers consist of pile fabrics of synthetic or natural fibers bonded to a core. A polyester pile bonded to a baked phenolic fiberboard core with epoxy adhesive is the most popular, because it does a good job and is cost-effective. The length of the pile nap determines the amount of paint the cover will hold, as well as the stipple or finish of the application. The nap fibers range in length from 1/8 inch to 1-1/2 inches. A 3/8-inch nap is recommended for smooth surfaces, although a 1/2-inch nap is often used because it holds and transfers more paint. Longer naps generally spatter more, requiring greater protection of surrounding areas.

- **Pans and Grids:**

Roller pans are available in widths to match the rollers, and in varying depths. Deeper pans hold more paint and result in greater productivity and safety, since they are less prone to spillage. Many professionals prefer to use a five-gallon bucket fitted with a grid for painting with both a roller and a brush.

c. **Spray-Painting**

There is no faster way of painting or producing a fine finish than by spray-painting. The two most widely used spray-painting systems for maintenance painting are conventional (air), and airless spraying.

Conventional: Conventional (air) spray-painting generally produces a finer finish than that produced by an airless application. Two basic types of conventional (air) spray are used in maintenance painting: pressure and siphon feed. Pressure feed is preferred in the construction industry. Even though its spray cannot be fine-tuned as well as a siphon-feed spray, the resultant finish is more than adequate. Most paint manufacturers supply recommendations for spraying their products, including paint-mixing instructions and recommendations for appropriate spray equipment.

The major disadvantage of all types of spraying, particularly when done outside, is overspray. Paint overspray can be carried as much as a quarter mile by wind, causing expensive damage to other finishes and plants. Therefore, all the previously mentioned precautions must be taken to protect adjacent areas, and the painter must be constantly alert to the direction of the wind and where overspray might be deposited. Overspray can blow around corners, over rooftops, into open or screened windows, and may even be drawn into ventilating systems.

Airless: Airless spraying atomizes paint by pumping it at very high pressure (over 1,000 psi) through a very small tungsten-carbide orifice. It is faster than conventional (air) spray painting, and since overspray is reduced less paint is wasted. Many paint manufacturers formulate paints specifically for spray application. Some of these products are known as dry-fall or dry-fog products. Because of the high pressures involved, many of these paints are readily atomized and do not require thinning. As with conventional spraying, most paint manufacturers publish mixing instructions for their materials and equipment recommendations, including operating pressures, gun, tip and tip-size recommendations for major spray equipment manufacturers.

Many professionals prefer to use a five-foot pole gun in lieu of a conventional hand gun. These are safe and comfortable to work with, and increase the painter's reach by several feet. In spite of all of these product and equipment advantages, the painter must always be on alert so that paint is only deposited where intended.

SECTION B APPLICATION PROCEDURES FOR INTERIORS

As indicated above, all painting should be in conformance with the paint manufacturer's instructions. Failure to follow them nullifies any claim the user might have against the manufacturer for material nonperformance.

For interior painting the need for protection of adjacent areas during painting is even greater, because of the close proximity to installed equipment, furnishings, and personal property.

The painter is in care, custody, and control of the property being painted, and is therefore responsible for any damage to it during painting. The painter's Golden Rule is: "If it is not to be painted, move it or cover it."

For interior work, the following precautions are necessary:

- Removal of window shades, drapes, pictures, and paintings, as well as hardware not to be painted, such as switch plates, receptacle plates, window handles and locks, and easily removed interior doors.
- Masking of toggle switches, outlets, and not-to-be-painted registers and vent covers;
- Covering of floors and furniture not removable (after moving furniture away from walls to be painted);
- Bagging pendant light fixtures;
- Shielding carpeting adjacent to baseboards, and baseboards themselves unless they are to be painted.

END OF CHAPTER FOUR