

PAINTING

Learning Outcomes:

After the class discussion, the students are expected to:

- Know the objective of painting
- Know how to prepare surfaces for painting
- Know the tools needed for removing rust and old paint
- Learn how to apply paint by brush
- Know different kinds brush and their uses
- Know the proper care and cleaning substance of brushes
- Know what to paint and not to paint surgeace
- Know safety precautions in painting

1. OBJECTIVE OF PAINTING

The protection of metal surfaces is the chief objectives of painting done aboardship.

Paints and varnishes are also used to decorate surfaces.

The only effective protection against rust is good paint properly applied to metal surface that have been carefully prepared for painting.

2. PREPARING SURFACES FOR PAINTING

Even the most expensive paint is of little value if it is applied on an insecure foundation.

Loose old paint, rush, dirt, dust, moisture of grease on any surface will prevent new paint from adhering to.

Before painting steel, it is necessary to remove all scale, grease, rust and moisture.



Rust spreads even if it is covered by paint.

Painting rusty surface causes paint to flake off.

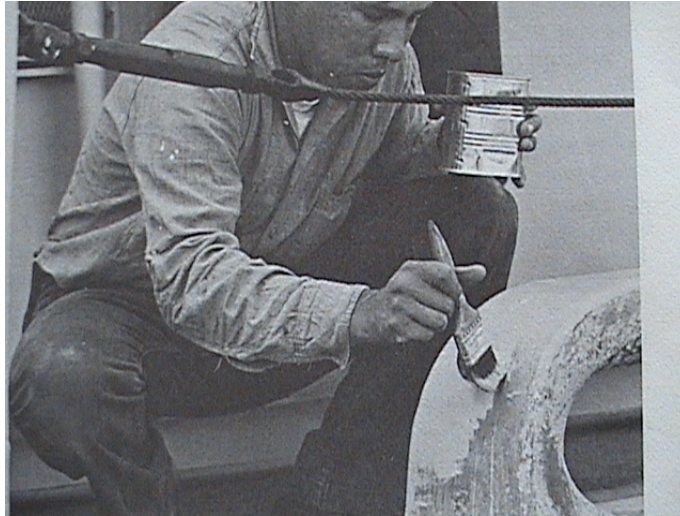
Rust and old paint may be removed in several ways depending on the thickness of the coating, thickness of steel underneath, and materials stored on either side of steel plating

3. TOOLS FOR REMOVING RUST AND OLD PAINT

- **Scraper** – used for removing rust on plating surfaces.
- **Wire Brush** – used as welded areas.
- **Sand Paper** – used as abrasive to polish.
- **Chipping Hammer** – used for thick rust.
- **Scaling Hammer or Jitterbug** – never used in plating less than $\frac{1}{4}$ inch in thickness.
- **Rotary Power Brush** – it is operated by compressed air.
- **Power Sander** – it is also operated by compressed air.
- **Rotary Chipping Tool.**
- **Blow Torch** – satisfactory but should be hot enough to blister the paint and to burn wood underneath or to discolor paint.

4. APPLICATION OF PAINT BY BRUSH

- Hold brush firmly by the handle not by the stock. If held by the stock, hands become covered with paint and may cause poisoning especially if small cuts are exposed and lead paints are used.
- Hold brush at right angle to the surface with the end of the bristles alone touching and lift it clear to the surface when starting the return stroke.
- Do not completely fill the brush with paint. Dip only the end of the bristles into the paint. Do not charge the brush with paint until the preceding charge has become sufficiently exhausted.
- Apply paint with long stroke parallel to the grain of the wood.
- Cross the work by laying on the paint over a small section with parallel strokes. Then cross the first application with parallel strokes at right angle to the first one, all laying off (final) should be lengthwise.
- For vertical surfaces, work should be laid off vertically.
- For overhead surfaces, ceiling panels should be laid off fore and aft and the beams athwartships.
- Keep paint well-mixed while work is proceeding. Best result can be obtained by applying two coats of thin or medium body paint than one coat of heavy paint



5. TYPES OF BRUSHES AND GENERAL RULES

Flat Paint Brush----- large surface
Oval Sash and Trim Brush-----small surface
Fitch Brush--- small and very small surfaces
Oval Varnish Brush----- rough
Flat Varnish Brush----- medium work
French Bristle Brush----- high grade work
Lettering Brush -small surface & large work
Painter Duster----- cleaning work

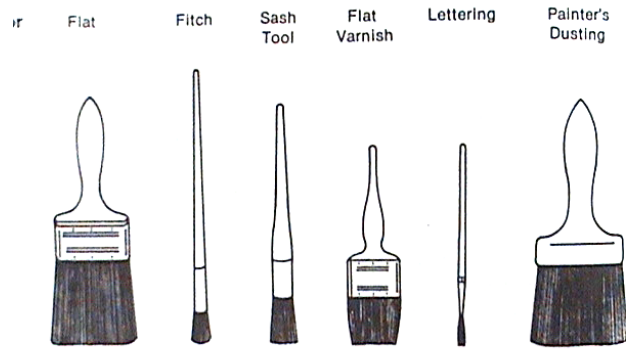


Figure 20-8 Types of brushes.

NOTE: (Flat, oval and trim brushes are the two most useful brushes)

3. CARE OF BRUSHES

Before using, rinse brushes with paint thinner and soak in boiled oil for about 48 hours to make them more flexible and easier to clean.

Care after use:

- Provide a container with compartments for stowing different types of brushes for a short period.
- The bristles must not touch the bottom as they eventually become distorted.
- Brushes which are to be used the following day should be cleaned with proper thinner and placed in the proper compartment of the container.

- Brushes not to be used soon should be cleaned in thinner, washed with soap and water and hang to dry. After drying, wrapped in waxed paper and stowed flat.
- Do not leave brush soaking in the water because it will cause the bristles to separate into hunches, flares and become bushy.

4. PROPER CLEANERS FOR BRUSHES WITH DIFFERENT FINISHES

Oil base paints and varnishes -- turpentine or mineral spirits

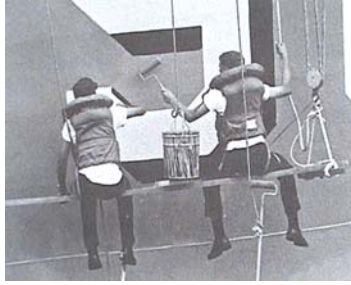
Rubber based paint----- water

Shellac----- alcohol

Lacquer ----- lacquer thinner

5. WHAT NOT TO PAINT

- Start-stop mechanism of electrical safety devices and control switchboards.
- Bell, pulls, sheaves, annunciator, chains, and other common mechanical devices.
- Dry sprinkling piping within magazines.
- Heat exchange surfaces of heating and cooling equipment.
- Identification plates.
- Joint faces of gaskets and packing surfaces.
- Rubber elements of isolated mounts, ground plates.
- Springs, strainers, threaded parts, hose and applicator nozzles.
- Knife edges, rubber gaskets, dogs, drop blots, electrical contact points and insulators.



6. PAINTING SAFETY PRECAUTIONS

- Complete ventilation of the compartment is essential to ensure immediate removal of vapors and paint dusts.
- Personnel using spray gun should wear clothing which fits smartly or tightly at the ankles, neck and wrist.
- Approved respirator must be worn and parts of the body not protected by clothing should be covered with petrolatum (Vaseline).
- Smoking, open flames, welding, grounding of spray equipment, chipping, and other spark-producing operations are prohibited in the compartment when spraying is in progress.
- Explosion proof portable lights should be used.
- Bulbs must not be replaced in a compartment or tank being painted until flammable or explosive vapors have been removed.
- Painted compartments long closed without ventilation must be entered with caution.

- Paint and varnish removers should not be used by persons having open cuts on their hands, unless rubber gloves are used.
- Paint and varnish removers should not be used in confined spaces because some have dangerous anesthetic property.
- If paint and varnish removers touch the skin and begin to burn, wash off with cold water immediately and consult the medical officer.
- Never use turpentine, spirits or other thinners for cleaning your hands after work because they can be absorbed through the skin pores. Use hand soap and water only.