

5. Application

5.1 GUIDELINES TO GOOD PAINT APPLICATION

5.1.1 Differing Colours

Wherever practicable, successive coats in paint systems should differ in colour. This assists application of continuous coats of uniform thickness (especially in conditions of poor lighting) and also facilitates inspection. For application, refer to manufacturer's recommendations.

5.1.2 Intervals Between Coats

Generally, each coat in the system should be dry throughout its thickness before the next coat is applied. Rate of drying should follow the recommendations of the manufacturers. Over exposure may lead to impaired adhesion.

For 'wet-on-wet' application (that is a second coat can be applied immediately after the first coat), refer to manufacturer's recommendations.

5.1.3 Intercoat Preparation

Receiving surface should be free from contaminants before application of each coat.

Light sanding with fine-grade, preferably partly worn, sandpaper can be used to remove 'nibs' and adherent dust particles. This helps to improve adhesion and provide a smooth, leveled surface. Wet sanding is applicable if extensive sanding is necessary. However, the coating must have hardened before any sanding work can be carried out. If the coatings scratch or tear, or the abrasive paper rapidly clogs, it is an indication that the surface is not sufficiently hardened to permit abrasion.



Figure 5.1 Sanding between coats of paints

5.1.4 Environmental Conditions

Prior to painting, the following environmental conditions should be complied with:

Check	Criteria
Ambient Temperature	– Ambient temperature > 5°C or refer to manufacturers' recommendation
Substrate surface temperature	– Surface temperature of substrate < 60°C or refer to manufacturers' recommendation – Surface temperature of substrate > 3°C + ambient temperature or refer to manufacturers' recommendation
Relative humidity	– Refer to manufacturers' recommendation
Pollution level	– No airborne dust and/or pollutant in environment
Wind condition	– No strong wind

5.1.5 Unfavourable Weather or Unsuitable Conditions

Painting should not be carried out in unfavourable weather or unsuitable conditions. The application of paint to damp surfaces could result in flaking and blistering due to lack of paint penetration into the surface pores and pressure build-up of water vapour behind the coating. It should be noted that surface dampness is not always apparent, particularly if the surface is flat and porous, such as a plaster or an undercoated surface.

Painting performed on surfaces directly exposed to the sun on a hot day may be subject to patchiness or sheariness. The heat causes the thinners to evaporate too quickly, making the paint difficult to be applied and causes interference with its flow.

5.1.6 Defective Paint

Applicator should stop application if paint appears to be defective. Investigation should be conducted to ascertain the cause of defects. Remedial works should be carried out before painting work can proceed.



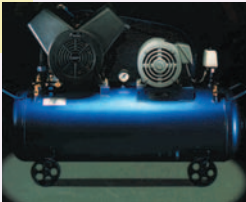
Common Tools/Equipments

Sprayers



▲ Spray Gun

▼ Air Compressor



◀ Compressed Pressure Tank

Description

- (2) Air Sprayer uses compressed air to force the paint from the container to the spray head. Paint output can be as much as 0.5 litre in one minute. It is mainly used for furniture spraying and texture coating.
- (3) Air-Assisted Sprayer requires air supply from a compressed pressure tank to operate. Paint output can be as much as 5 litres in one minute.

Application

Mainly use for large areas where spray painting is permissible

For smooth and rough surfaces

Applicable for all paints and coatings

Texture coatings can be done with Hopper/Mortar Gun

5.3 APPLICATION METHODS

Method

Brush Application








Basic Technique

- Dampen the brushes prior to painting. Use water for latex or emulsion paints and paint thinner for oil or alkyd paints. Remove excess water or thinner.
- Dip half the length of the bristles into the paint. Tap the brush gently against the side of the can to drain off the excess paint.
- Use the bristle tips to paint a complete stroke in one direction in continual length or breadth at about one arm length.

Good Practices

- For new brushes, remove the loose bristles before use.
- Avoid immersing the whole brush head into the paints or coatings.
- Avoid exerting too much pressure in working the bristles against the surface during painting.
- Do not allow too much paint on its bristles during application to minimise paint drooling on the surface.
- Verify with supervisor whether survey markings should be painted over.



Method	Basic Technique	Good Practices
<p data-bbox="172 241 375 268">Roller Application</p>  	<ul data-bbox="606 241 989 403" style="list-style-type: none"> • Roll from high to low using “W” format followed by “M” format to overlap. This technique is widely used to evenly disperse the paint on the surface and to minimise roller lines. 	<ul data-bbox="1037 241 1428 672" style="list-style-type: none"> • For new roller refill, immerse it in paint and roll it over paper/ surface for about a minute to season it before use. This will prevent refill fabric from adhering to the painted surfaces during application. • Use the right roller with appropriate pile length for the painting works for better uniformity and evenness in the paint coating. • Do not roll on an ad-hoc basis, as this will tend to create roller lines or marks on the surface.
<p data-bbox="172 891 375 918">Spray Application</p>   	<ul data-bbox="606 891 989 1131" style="list-style-type: none"> • Spray painting by pressing the trigger to eject the paint onto the surface; stroke by stroke vertically or horizontally. • For airless spray, maintain a distance between the nozzle of the gun and surface of about 1 m or as specified by manufacturers. 	<ul data-bbox="1037 891 1428 1321" style="list-style-type: none"> • Use clean and appropriate spraying tip / gun nozzle for the spray-painting work. Generally, the size of the spraying tip will depend on the paint consistency. • Appropriate pump pressure level should be used for each spraying. • Masks should be used during spraying to prevent inhaling toxin and dust. • Never point the spray gun at anybody when the equipment is in operation.

application



5.4 PROTECTION WORKS AFTER APPLICATION

Upon completion of the painting works, the finished works should be protected from staining and damages. Protection for finished works can be achieved by placing barricades around the areas with a “Wet Paint” sign to restrict access.

5.5 INSPECTION OF COMPLETED WORKS

The completed works should be inspected for the following:

Items To Check	Description
Protection works after application	Check that all barricades and warning signs are put up.
Appearance	Check colour, hue, texture (if applicable) and evenness of paint film by visual assessment.
Thickness (optional)	Check wet film thickness using a wet film gauge. Check dry film thickness: <ul style="list-style-type: none">• Metals: The thickness can be measured with magnetic or electrical gauge. The latter is more accurate and can measure film thickness on both ferrous and non-ferrous surfaces.• Masonry: The thickness can be measured by cutting a cross-section of the paint from the wall for examination by qualified technician.
Adhesion	Check adhesion of paint system after sufficient curing using adhesive tape.
Curing Condition	Allow for adequate curing period of paint film (refer to manufacturer’s specifications for curing period).

