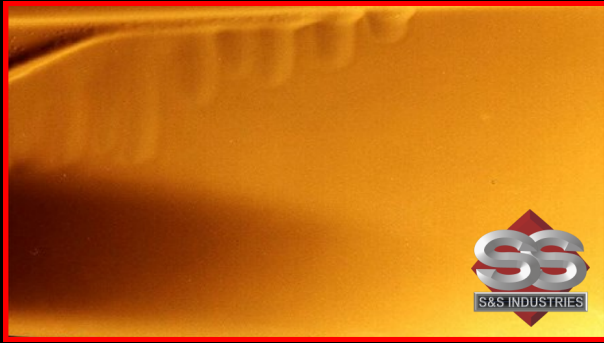


RUNS AND SAGS

Appearance

Apparent as a running or sagging finish, resulting from too much material in the area.



CAUSE

- Too much thinner.
- Too heavy coats
- Too wet coats
- Short flash-time between coats
- Cold shop temperatures
- Wrong gun techniques

REMEDY

- Reduce material according to label directions
- Apply medium coats only
- Regulate fluid adjustment on spray gun to cut down flow of material.
- Increase flash-time between coats
- Allow for temperature conditions during application
- Don't hold gun too close and move at a uniform speed at right angles to the surface. If runs or sags have already occurred, sand down to a smooth finish and refinish.

ORANGE PEEL

Appearance

The pock-marked appearance of a sprayed film due to its failure to flow to a level film.



CAUSE

- Materials not uniformly mixed
- Poor quality thinner, and insufficiently thinned with wrong grade of thinner.
- Improper atomisation caused by faulty handling of the spray gun.
- Improper drying caused by fanning air.

REMEDY

- Stir all materials to obtain a uniform mixture
- Choose correct grade of thinner and a thin according to directions
- To avoid poor spraying technique, use arm in full long strokes, keeping parallel to the surface with correct wrist action. Hold gun at right angles 15-20cm for lacquers and 20-25 cm for enamels from the surface, using specified air pressures.
- Do not fan air over surface as this causes skin drying without flow.

To remove orange peel effect, rub with rubbing compound or buffing compound when thoroughly dry. In extreme cases sand down to smooth surface and refinish, using a higher grade thinner at a reduced air pressure;

CHECKING OR CROCODILING

Appearance:

A large pattern of wide splits with rounded edges, in the topcoat after exposure.



CAUSE

- Materials not uniformly mixed.
- Effect of old finish or previous repair.
- Excessive film thickness.
- Exposed to harmful materials, chemicals, industrial fallout, etc, or prolonged exposure to sunlight.

REMEDY

- Stir all materials thoroughly to obtain a uniform mixture.
- Ensure new film is compatible with old substrate.
- Do not apply in heavy films, apply in medium coats. If this defect cannot be restored by compounding or polishing, sand affected area to a smooth finish and refinish. In very severe cases affected area may have to be stripped to bare metal and repainted using a complete system.

WRINKLING

Appearance:

The development of wrinkles in a film during drying.



CAUSE

- Too rapid surface drying can cause enamel to wrinkle. This condition retards the drying of the enamel below the surface. As the under surface material dries out, it tends to shrink and wrinkle the dry material on top.
- "Piling-on" in heavy wet coats.*
- Poor shop conditions, too cold and draughty.*
- Fanning with air to force the drying—it causes surface drying only and traps solvents underneath.

REMEDY

- Leave enamel to dry in well ventilated drying area.
- Avoid excessively heavy coats.
- Endeavour to heat shop and panels prior to spraying.
- Do not fan with air.

If wrinkle has occurred either:

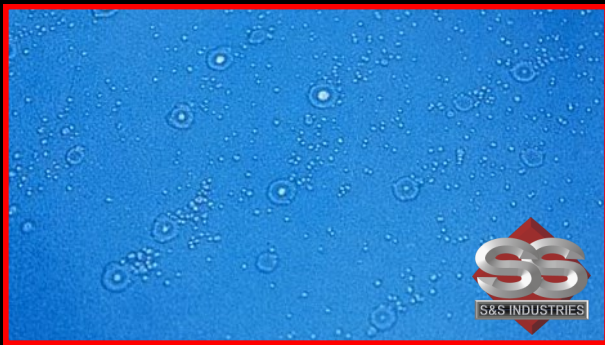
- Allow enamel to age for several weeks, sand down and refinish or
- Strip wrinkled areas and refinish with complete system.

* MOST COMMON CAUSES.

FISH EYES

Appearance

Small saucer imperfection in the top coat



CAUSE

- a. Silicone contamination or oil

REMEDY

- a. Treat every paint job by cleaning all surfaces to be painted with an appropriate cleaning solvent to remove silicone and oil etc.
- b. Drain air transformer and air compressor tank regularly. In very severe cases affected area should be removed and refinished.

SOLVENT POPPING

Appearance

Small holes in the paint film caused by rapid evaporation of trapped solvents or air



CAUSE

- a. Wrong thinner or reducer—too fast
- b. Waterborne paints applied in high humidity
- c. Excessive film thickness, trapping solvents in the undercoats

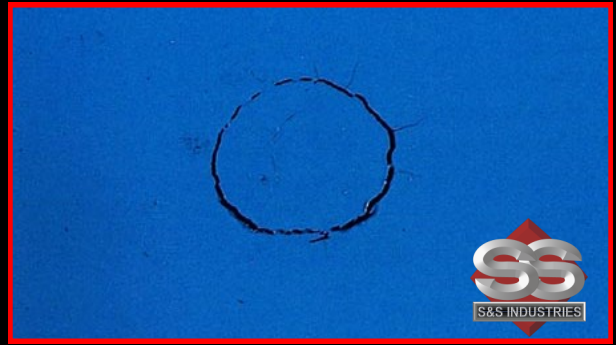
REMEDY

- a. Select the thinner or reducer that is suitable for existing shop conditions.
- b. Apply waterborne paint during low humidity or dehumidify the paint area.
- c. Avoid piling on undercoats or topcoats. Allow sufficient flash and dry time. Do not dry by fanning.
- d. In mild cases, the damage can be sanded out and refinished. If damage is severe, the paint must be removed down to the undercoat or substrate, depending on the depth of the holes, and then refinished.

FEATHEREDGE SPLITTING

Appearance

Appears as stretch marks or cracking along the edge of a refinished area (featheredge); occurs during or shortly after a new topcoat application.



CAUSE

- a. Piling on the undercoat causes solvent to become trapped in undercoat layers that have not had time to set —up
- b. Poor mixing of materials, causes the paint to act like a sponge. As the solvent flashes the finish shrinks and pulls away from the refinished area.
- c. Wrong thinner
- d. Improper surface cleaning or preparation. When not properly cleaned, primer-surfacer coats draw away from the edge because of poor adhesion.
- e. Improper drying. Fanning with a spray gun after the primer-surfacer is applied results in drying the surface before solvent or air from the lower layers is released.
- f. Excessive use and build-up of putty during the refinishing process.

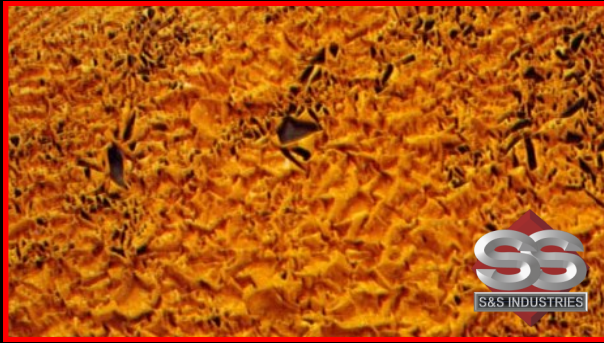
REMEDY

- a. Apply primer-surfacer in thin to medium coats with enough time between coats to allow solvents and air to escape.
- b. Mix all materials thoroughly.
- c. Select only thinners that are suitable for existing shop conditions
- d. Thoroughly clean areas to be painted before and after sanding.
- e. Same as #a.
- f. Lacquer putty should be used in minimum amounts, applied in thin layers. Putty applied too heavily will eventually shrink and cause featheredge splitting.
- g. Remove finish from affected areas and refinish.

LIFTING

Appearance

Distortion or shrivelling of the surface while the topcoat is being applied or drying



CAUSE

- Incompatible materials. Solvents in the new topcoat attack the old surface, e.g. lacquer over enamel.
- Insufficient flash time or drying between coats
- Improper surface cleaning or preparation
- Wrong thinner or reducer.

REMEDY

- Use only materials that are compatible with the old surface, and designed for use with one another.
- Don't pile on topcoats. Allow sufficient flash and drying time. Topcoats should be applied when the previous coat is still soluble or after it has completely dried and is impervious to the topcoat solvents.
- Thoroughly clean the areas to be painted before and after sanding. Ensure the surface is completely dry before applying undercoats and topcoats.
- Use a thinner or reducer that is recommended for the topcoat being applied and is suitable for existing shop conditions.
- Remove the finish from the affected area and refinish.

CRAZING

Appearance

Fine splits, small cracks, or crowsfeet, that completely checker an area in an irregular manner.



CAUSE

- Shop too cold, literally causing the original material to shatter under the softening action of the solvents being applied.

REMEDY

- Select the correct thinner or reducer for existing shop conditions. Schedule painting to avoid temperature and humidity extremes in the shop; bring the part to room temperature before painting.
- Apply wet coats of the topcoat with the wettest thinner shop conditions will allow, to melt the crazing and flow the pattern together.
- Apply a fast-flashing topcoat to bridge over the cracks in the crazing area.

BLUSHING

Appearance

A milky white haze that appears on the paint film.



CAUSE

- In hot humid weather, moisture droplets become trapped in the wet paint film. Air currents from the spray gun, spray booth ventilation, and evaporation of the thinner tend to make the surface being sprayed lower in temperature than the surrounding atmosphere. This causes moisture in the air to condense on the wet paint film.
- Excessive air pressure.
- Wrong thinner—too fast.
- Low temperatures of the part, paint, and spray booth air, increase the chance of dropping below the dew point.

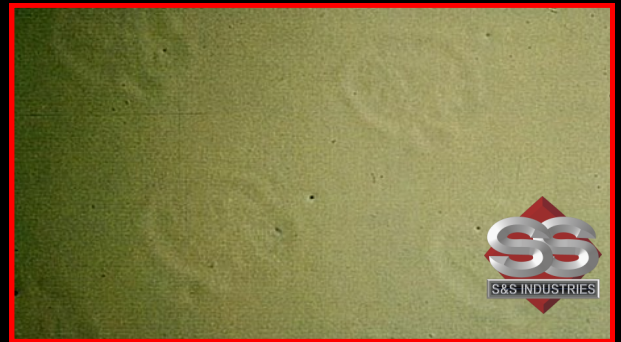
REMEDY

- In hot humid weather try to schedule painting when temperature and humidity conditions are more suitable (70 deg. F, 45% -55% RH).
- Use proper gun adjustments and techniques.
- Select a thinner that is suitable for existing shop conditions.
- Allow parts, and paints to reach normal temperature. See also #a.
- Add a retarder to the thinned color and apply additional coats.

WET SPOTS

Appearance

Spots of various sizes that are discoloured, slow drying, or both.



CAUSE

- Improper cleaning and preparation
- Improper drying of excessive undercoat film build.
- Wet sanding with contaminated solvent

REMEDY

- Thoroughly clean all areas to be painted.
- Allow sufficient flash and dry times for undercoats
- Use water when wet sanding
- Solvent wash or sand affected areas thoroughly and refinish.

PINHOLDING

Appearance

Tiny holes in the finish, putty or body filler, usually the result of trapped solvents, air or moisture



CAUSE

- a. Improper surface cleaning or preparation
- b. Moisture or oil contamination of air lines
- c. Wrong gun adjustment or technique; paint application is too wet.
- d. Wrong thinner or reducer; solvent is trapped by subsequent topcoats.
- e. Improper dry. Fanning a wet finish can drive air into the surface or cause a skin-dry that results in pin holing when air or solvents come to the surface.

REMEDY

- a. Thoroughly clean all areas to be painted. Ensure all surfaced are dry before applying coatings.
- b. Drain and clean air pressure regulator and drain air compressor tank daily.
- c. Use proper gun adjustments, techniques, and air pressure.
- d. Select the thinner or reducer that is suitable for existing shop conditions.
- e. Allow sufficient flash and dry time. Do not dry by fanning.
- f. Sand the affected area down to a smooth finish and refinish.