

WHAT'S POPPING





WHAT'S POPPING?

POPPING is a commonly occurring **Paint Failure**

Popping or **Solvent Popping** occurs due to:

- Air bubbles that have been trapped during the spraying phase
- Air bubbles having minimal time to **pop out** due to rapid surface drying of the film

This leads to formation of:

- **Visible Bubbles or Craters**



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CAUSES OF POPPING

High Application Temperatures

Rapid solvent evaporation due to high ambient temperatures or application temperatures

Inadequate Ventilation

Poor ventilation during application or curing can hinder solvent escape, causing bubbles to form.

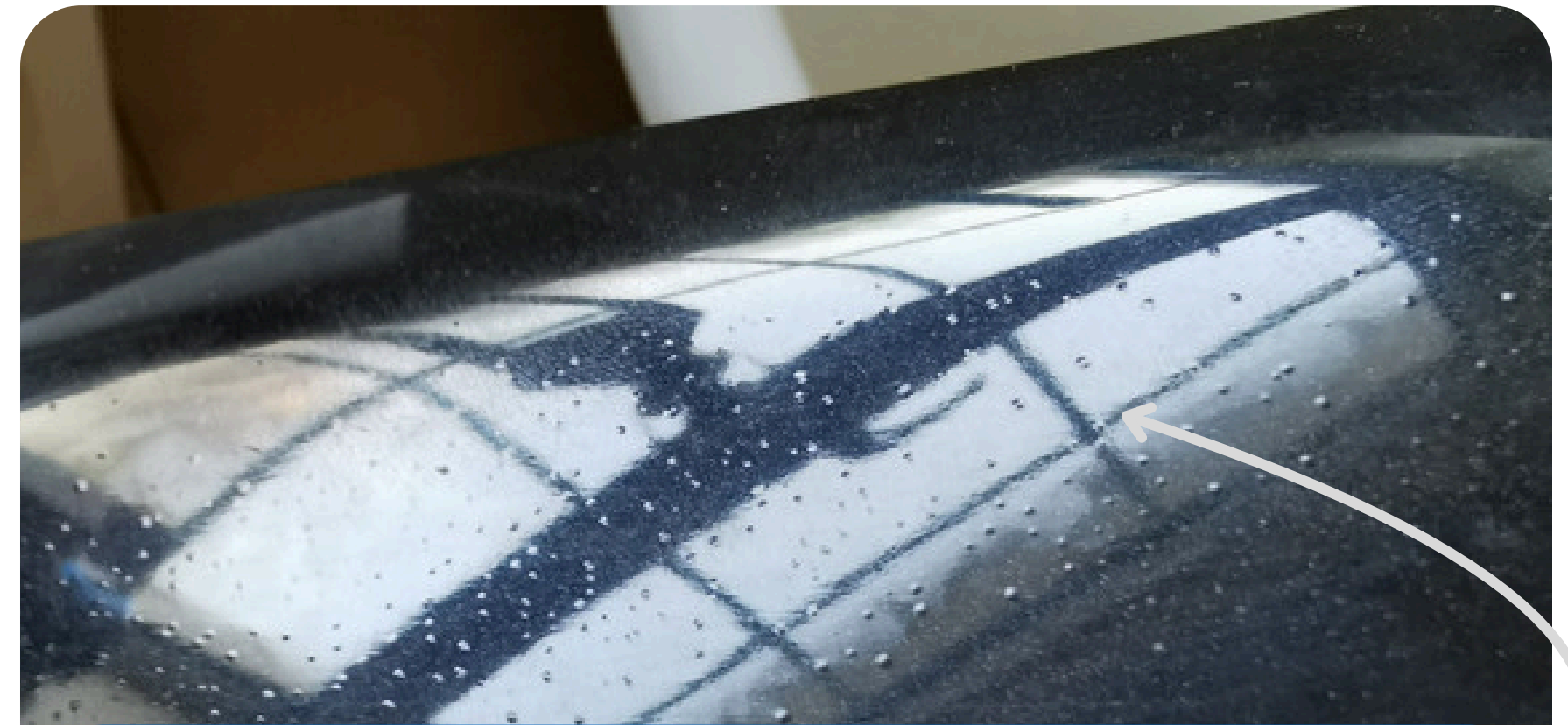
High Film Thickness

Application of excessively thick coats can trap solvents within the coating.

Incompatible Solvents

Certain solvent combinations may have differing evaporation rates, leading to uneven drying and solvent entrapment.

EFFECTS OF POPPING



Aesthetic Defects
Reduced Coating Performance
Increased Rework or Rejection Rates

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COUNTERACTIVE MEASURES FOR POPPING

Proper Ventilation

Ensuring adequate ventilation during application and curing processes facilitates the escape of solvents, reducing the risk of solvent popping

Controlled Application Conditions

Maintaining optimal application temperatures and humidity levels helps regulate solvent evaporation rates, minimizing solvent entrapment.

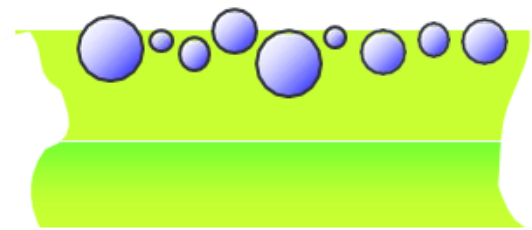
Use of Anti-Popping Additives

Swipe to learn how 

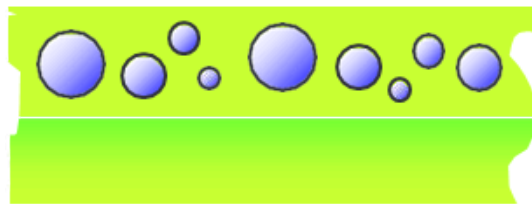


COUNTERACTIVE MEASURES FOR POPPING

| USING ANTI-POPPING ADDITIVES



destabilization of foam bubbles by Defoamer



air release agents stimulates and speed up the migration of bubble to the surface

DEFOAMERS

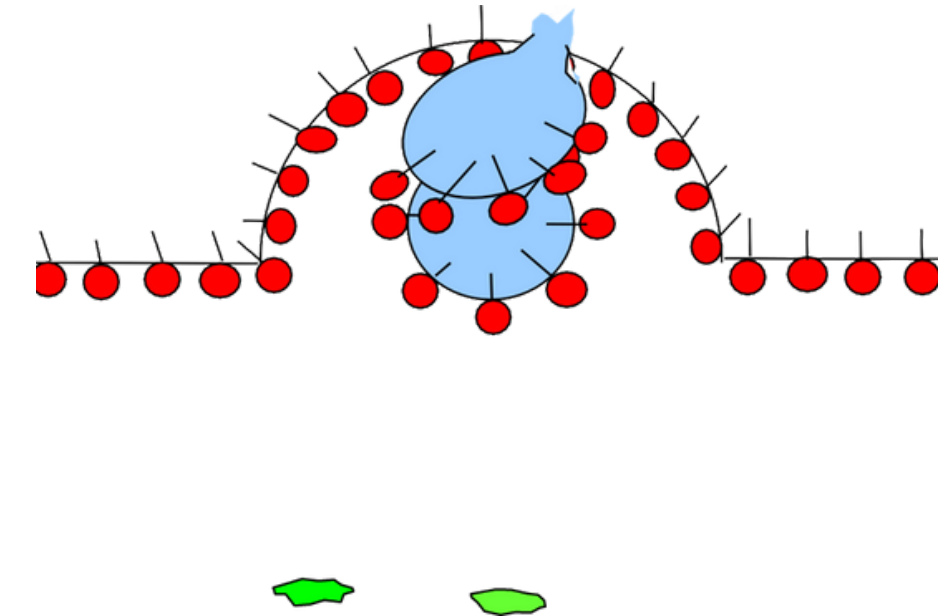
Defoamers work through the direct destruction of the foam usually seen as macro foam.

DEAERATORS

Deaerators function during film formation allowing micro foam (fine distributed air) to rise quickly to the surface.

NOTE: In practice, however, differentiation is not usually clear
Defoamers are also active against micro foam.

DEFOAMER MECHANISM FOR ANTI-POP



MECHANISM PRINCIPLE: **ENTERING | SPREADING | BURSTING**

The defoamer quickly spreads to disrupt the surfactant layer, reducing film elasticity. This enables solvent gas to escape, minimizing popping defects.

Swipe to learn how





RECOMMENDED ADDITIVES FOR ANTI-POPPING

FOR SOLVENT BASE

132S

A Medium to Strong Defoamer that gives good air release and macro-defoaming properties, especially in spraying applications

FOR WATER BASE

350W

A Silicone free Levelling Agent that can offer strong surface tension reduction and good air release (defoaming properties)



RECOMMENDED ADDITIVES FOR ANTI-CRATERING

FOR SOLVENT BASE

493U

An organically modified Polyether Polysiloxane Levelling Agent that gives strong surface reduction and excellent substrate wetting thereby acting as a very good anti-crater additive.

FOR WATER BASE

352W

A non-ionic hyper-branched polymeric wetting and leveling agent, effective in a wide variety of emulsion resins., with excellent substrate wetting performance thereby acting as an effective anti-crater additive