ErgonArmor™ | TECHNICAL BULLETIN

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Amine Blush & Bloom of Epoxy

What is Amine Blush & Amine Bloom?

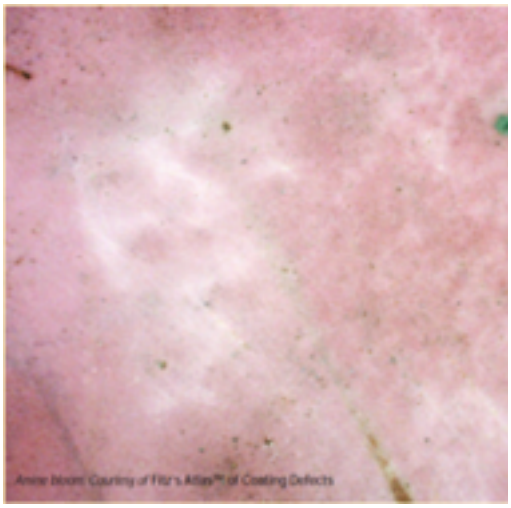
Blushing (Water Spotting) is a chemical reaction that can occur when environmental conditions are favorable for the amine curing agent on the surface of the coating to react with carbon dioxide and moisture in the atmosphere to form carbamate.

- Blushing typically appears as white blotches, milky and or hazy appearance in clear finishes, and low gloss in pigmented finishes

Blooming (Leaching) occurs when the amount of condensate causes water-soluble compounds to migrate from the body of the coating to the coating surface.

- Blooming typically appears as sticky deposits

Amine Blush



Amine Bloom

Why is Blush & Bloom a concern?

- Both are considered surface defects, and if not treated can result in limited gloss retention, yellowing/discoloration, and or poor inter-coat adhesion.
- The moisture may also originate from a porous substrate such as concrete, and affect the cure causing poor adhesion to the substrate.
    - Generally applying a moisture tolerant concrete primer helps minimize this.
- If not properly cleaned or removed off the substrate before overcoating, this residue can contribute to decreased bond strength and potential delamination.
- If they appear in the topcoat, the chemical and mechanical properties may also be affected. The finish may become mottled and lack aesthetic continuity.

How do I protect against Blush & Bloom?

- Read and familiarize yourself with the ErgonArmor Product Data Sheet: It lists the acceptable atmospheric conditions for application, proper mixing directions, and other relevant information.
- Continuously monitor atmospheric conditions: Moisture + CO_2 + Amine Curing Agent together are the catalysts for blush/bloom manifestation.
    - The moisture/CO_2 mixture reacts with amine in epoxy curing agent.
- Do not paint when the temperature is not at least 5°F (3°C) above the dew point and rising
- Avoid applying during conditions of high humidity ≥ 85% at 70°F (21°C) and ≥ 70% at 50°F (10°C)
- For cold temperature applications, consider a combination of heat and dehumidification – Be aware that using heaters in a poorly ventilated space can contribute both CO_2 and moisture to the atmosphere.

How do I remedy this?

- Always best to consult on this issue with your ErgonArmor representative.
- For Overcoating the Substrate
    - Wash with detergent or degreaser and water
    - Insure blush/bloom is removed, surface is properly rinsed, and substrate is dry
    - If the blush/bloom has a hazy surface, mechanical removal may be required
- As the Topcoat
    - Wash with detergent or degreaser and water
    - Insure blush/bloom is removed, surface is properly rinsed, and substrate is dry
    - Mechanical removal or abrading may change the texture and or gloss of the coating result in loss of aesthetics.