

# SUBSTRATE TEMPERATURE, HUMIDITY & ENVIRONMENTAL PRE-CHECKS

## OVERVIEW

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Environmental pre-checks ensure that substrate temperature, air temperature, humidity, and dew point constraints are met prior to installing resinous coatings. These measurements determine curing behavior, adhesion reliability, and overall film performance. Skipping this step is one of the leading causes of field failures.

### **Critical Environmental Parameters**

- Substrate Temperature: Must meet manufacturer product minimum.
- Air Temperature: Should remain stable throughout cure phase.
- Relative Humidity: High RH affects cure, amine blush, and pot life.
- Dew Point: Substrate must be  $\geq 5^{\circ}\text{F}$  above dew point.
- Ventilation Rate: Impacts solvent release and curing dynamics.

### **Pre-Check Steps**

1. Measure and document substrate temperature in multiple areas.
2. Measure ambient temperature and humidity.
3. Calculate dew point and confirm safe margin.
4. Confirm HVAC or climate control is running and stable.
5. Confirm no overnight temperature drops will risk condensation.

### **Why It Matters**

- Cold slabs slow cure and increase viscosity.
- Warm slabs accelerate working time and pot life reduction.
- High humidity causes haze, blush, and improper cure.
- Dew point violations cause catastrophic adhesion failure.

### **Best Practices**

- Use calibrated digital psychrometers.
- Monitor environmental conditions hourly.
- Stop installation if dew point margin becomes unsafe.
- Control airflow during curing to prevent rapid surface drying.