

Clancy's Commercial

HIGH PERFORMANCE COATINGS

DRYING & CURING METHODS

Typically most coatings dry or cure in two common ways:

1. By Solvent evaporation
2. By chemical curing combined with solvent evaporation

Certain paint systems dry at room temperature, but force drying can be achieved through heat transfer. When force drying, sufficient flash-off time for solvents must be given to protect against such problems as blistering, pinholing, etc. After force drying, sufficient cooling must be achieved to prevent blocking when stacking. Two common force drying systems are convectional and infrared drying.

1. **Convection Oven**

It is built so heat will come from a heat source, for example: gas, oil, wood or electric. Air passes over the heat source, and then down into the oven to heat the coating and the objects. High speed and high temperature will increase the heat transport.

2. **Infrared Heating**

Infrared heating, as the name implies, is derived from Infrared waves. Infrared delivers high temperatures for a rapid cure. Infrared is commonly used in conjunction with the convection heat for a rapid “kick-over” of the coating.

3. **Ultraviolet Curing**

It uses Ultraviolet rays to cure coatings. The coating has an active ingredient called a “photoinitiator” which absorbs Ultraviolet rays to cure the coating.