



## MEK Double Rub Test Method for Cure of UV Coatings

### BACKGROUND

This procedure is written to allow press side monitoring of the degree of cure of UV coatings using solvent resistance. There are many variables that play a part in the cure and therefore the performance of UV coatings. There should be an established maintenance schedule to regularly inspect, clean and replace the lamps and reflectors. The cure rate of a topcoat is affected by coat weight, color of the ink, dryness of the ink, substrate, porosity of the paper stock, relative humidity, lamp wattage, lamp settings and other factors. As these parameters are controlled, consistency can be achieved.

Variations in solvent resistance not only occur due to the above mentioned factors but also due to flow and leveling, pinholing and chemical makeup of the coating.

The purpose of this test is to provide a method to establish consistency in day to day production relative to the cure level of a UV topcoat on each press. This test, when run consistently, should alert press operators to potential problems. If you have questions please call our Customer Service Department or one of our chemists at 414-762-3330.

### ITEMS REQUIRED FOR TEST

1. Cotton cheesecloth
2. 32 oz. ball peen hammer
3. Methyl ethyl ketone (MEK)
4. Ventilation

### PROCEDURE

1. Wrap 16 layers of cheesecloth around the ball end of the hammer and attach with a rubber band.
2. Saturate the cheesecloth in MEK and place on the coated UV stock to be tested.
3. Place the hammer handle in the palm of your hand and hold the handle parallel to the floor.
4. Strokes:
  - a. The length of each stroke is to approximately four inches.
  - b. Count a forward and backward stroke as one rub (a cycle).
  - c. Perform the rub pattern in the same location.
  - d. No additional weight should be added to the hammer.
5. Results are to be reported as a range of double rubs (cycles) required to initiate failure (where a few pinholes can be observed) to general coating failure. Ignore the two positions at the beginning and ending of the hammer stroke where the rub direction is reversed.

