**Section 278.201 Foil Strip Film Transfer Efficiency Test**

This method is the preferred test method and is to be used except for the special conditions described in Sections 278.202 and 278.203. When using this test method, the following steps shall be followed in the order presented:

a) Set up the conveyor speed measuring equipment consisting of photoelectric cells or limit switches used in conjunction with a digital timer, or timing marks on the conveyor used in conjunction with a stopwatch.

b) Cut an appropriate number of strips of 0.0037 cm (1.5 mil) thick aluminum foil to dimensions of 38.1 cm (15 in) by approximately 127 cm (50 in) for the testing.

c) Consecutively number each precut foil strip on the dull side using a permanent marking pen.

d) Weigh each foil strip and record the foil number and mass.

e) Attach preweighed labeled foil (dull side to the target) to six targets. Attach unlabeled foil on four scavenger targets. All seams must face away from the spray equipment.

f) Mount the foil-covered targets in consecutive order from right to left (facing the booth) with the foil seam on each target facing away from the spray gun.

g) Adjust all equipment operating parameters to the values desired for testing.

h) Cure time and temperature of the oven should be set per manufacturer's instructions.

i) Recheck operating parameters to ensure that they are correct.

j) For electrostatic spray equipment, measure the operating voltage and adjust according to manufacturer's instructions and record value.

k) Inspect conveyor clock, stopwatch, and mass flow measurement equipment to assure that all are prepared to operate.

l) Turn on spray booth and conveyor. As the leading edge of the first scavenger target passes in front of the gun, turn on paint spray equipment and simultaneously begin mass flow measurement.

m) As the trailing edge of the last scavenger target passes in front of the gun, stop the paint spray equipment and mass flow measurement simultaneously.

n) Record the mass flow measurement.

o) Measure the wet film thickness on the trailing scavenger and record.

p) Remove the painted targets from the conveyor and ensure that no paint is lost. Securely hang the coated targets on oven racks so all painted surfaces are exposed for uniform drying. Orient all targets in the same direction in the curing oven.

q) Insert racks in oven and bake at manufacturer's recommended schedule. Oven door shall be opened for minimum amount of time to prevent cooling.

r) Remove targets from oven and record actual cure schedule on a separate data sheet. Cool foil to room temperature. Remove foil from each target, weigh foil and record mass on each foil and on a separate data sheet.

s) After weighing, store foils in plastic bags, with the test run number labeled on each bag. The laboratory shall retain all samples until data analyses are complete. Check all data for correctness and completeness.