

Hurletron[®], Incorporated, 1820 Tempel Drive, Libertyville, IL 60048
 Telephone: 1.847.680.7022 Fax: 1.847.680.7338 www.hurletron.com



The Hurletron Impression Roll Tester is an instrument that can be used for both quality control and diagnostic measurement. Basically it is a high resistance ohmmeter used in conjunction with a specially designed measuring electrode.



The performance of an ESA roller in a press is a function of the resistivity of the rubber covering. The resistance must be high enough to provide energy limitation to any point on the surface, yet low enough to allow the generation of an electrostatic field across the nip with sufficient strength to assist the transfer of ink from the gravure cell to the substrate surface.

The resistance reading for any given roll is a function of the roll construction (1, 2, or 3 layer construction); thickness of the rubber covering; volume resistivity of the rubber compound itself; and temperature of the rubber when measured. The displayed readings for “good” and “bad” impression rolls must be determined individually for each press. A re-

corded history of readings versus performance can be developed fairly quickly. New impression rolls can be measured “in the box as received” as well as after being installed in the press and at normal operating temperature. Rolls that are suspected of poor performance should also be measured and recorded. As impression rolls age, the measured resistance increases, and performance decreases. Periodic measurement of the installed rolls can help determine when replacement should occur.



Although specific numbers must be determined for given rolls, a reading of less than 0.5 megohms is typically too low to provide sufficient energy limitation, and a reading above 15 megohms would typically be too resistive to allow desired assist.

The tester can also be used to check the insulating layer in 2 and 3 layer rolls. Rather than connecting both wires to the measuring electrode, connect only one, and connect the other wire to the press frame. The indicated resistance should be over 1000 megohms with a 1000 volt source.