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Inkjet Printer Drop Impact on Coated and Uncoated Papers SAMAN HOSSEINI, RAFAEL ORSI KOGA, NASSER ASHGRIZ, SANJEEV CHANDRA, University of Toronto — The impact of ink drops generated by a solid ink inkjet printer on coated and uncoated papers were investigated. Ink drops are different impact velocities and different initial temperatures were tested. A Xerox solid ink inkjet is used in this study. In this printer, the solid ink is heated to temperatures of about 90C and then ejected out of the printed. The ink drop solidifies as soon as it impact on the paper. Small, about 39 micron droplets were impacted on a paper positioned 0.5 mm from the print head. SEM images of individual drops were obtained and analyzes to determine the droplet spread diameter, droplet height, and droplet contact angles. In addition, the texture and shape of the drops were categorized according to the impact parameters. There is a substantial difference between the droplet impact results for coated versus uncoated papers. In addition, the temperature of the substrate at the time of impact made a significant difference, since small drops cool very fast and they do not attach properly to the paper at room temperatures.

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