

Challenges in Components Design for Transfer Subsystem in Electrophotographic Marking

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Abstract

This presentation will describe work processes to develop new materials and enabling surfaces that provide improved subsystem performance in order to meet the needs for continuing improvement of key xerographic marking subsystems. The presentation will be in two parts. In the first part, the aforementioned work process will be described, beginning with the identification of transfer subsystem requirements for marking processes based on tandem architectures. The major emphasis will be placed on performance optimization requirements. The second part will show specific examples of transfer subsystem components including intermediate transfer belts and bias transfer rolls designs. Specific emphasis will be placed on the difficulties encountered in materials design for seamed and seamless intermediate transfer belts. The presentation will close with subsystem design challenges to optimize system interactions in the transfer nip impacting component reliability and image quality.

Author Biography

Dr. Santokh S. Badesha is a Xerox Fellow in the Xerox Corporation's Innovation Group (XIG) and responsible for leading inter-organizational efforts with both internal and external value chain partners. Recently, he has been appointed to the position of Manager Open Innovation in XIG. Badesha received his Ph.D., in organic chemistry from the University of East Anglia, Norwich, UK, in 1976 and an Honorary Doctorate of Science from Clarkson University in 2007.

Badesha holds 158 U.S. patents and has over 50 peers reviewed key scientific publications and presentations. He has received numerous honors and awards. He is a Fellow of the Royal Society of Chemistry, Chartered Scientist of the Science Council of UK, and has received a Proclamation from the Mayor of Rochester, NY. Badesha received the Distinguished Inventor of the Year Award from the Rochester Intellectual Property Law Association and was named to the Board of the Center for Advanced Materials Processing, Clarkson University. He was inducted into the Xerox Innovation Group Hall of Fame; received the Chester Carlson Eagle Award; a Xerox Excellence in Management Award; the Xerox President's Award, and numerous Xerox Excellence in Science and Technology Awards.