DESCRIPTION

Unique in its integration of individual topics to achieve a full-system approach, this book addresses all the aspects essential for industrial inkjet printing.

After an introduction listing the industrial printing techniques available, the text goes on to discuss individual topics, such as ink, printheads and substrates, followed by metrology techniques that are required for reliable systems. Three iteration cycles are then described, including the adaptation of the ink to the printhead, the optimization of the ink to the substrate and the integration of machine manufacturing, monitoring, and data handling, among others. Finally, the book summarizes a number of case studies and success stories from selected areas, including graphics, printed electronics, and 3D printing as well a list of ink suppliers, printhead manufacturers and integrators. Practical hints are included throughout for a direct hands-on experience.

Invaluable for industrial users and academics, whether ink developers or mechanical engineers, and working in areas ranging from metrology to intellectual property.

ABOUT THE AUTHOR

Werner Zapka is manager of the Advanced Application Technology team of XaarJet AB (Jarfalla, Sweden) where inkjet processes are developed specifically with functional fluids for digital fabrication. In 1980 Werner Zapka earned his Ph.D. in physics at the Max-Planck-Institute in Gottingen, Germany, on design and applications of excimer lasers. He then moved to IBM Research Labs,
USA, and IBM Germany, engaging himself for 14 years in research and development in semiconductor, electronic packaging and laser technology. In 1995 he joined MIT-inkjet, which was renamed in 1999 to XaarJet AB, to develop inkjet printheads and their manufacturing processes.

Since 2009 he is also appointed as Adjunct Professor at Royal Institute of Technology (KTH) in Stockholm, Sweden, where is developing smart packaging solutions by way of inkjet printing of functional fluids.

He has authored more than 60 scientific publications and holds 22 patents. Furthermore, he obtained six IBM Invention Achievement Awards and serves on the committee of the annual Digital Fabrication conferences.