

# Characteristics of Development

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## Abstract

*Two-component development systems using magnetic carriers and tribocharged toner particles are well established in electrophotography for high-quality development of electrostatic latent images at high speed. Two main approaches are used for these systems: development utilizing fixed magnets within a rotating developer roller, or development with a moving magnetic field, usually produced by a developer roller with a rotating magnetic core as well as a rotating outer surface or shell. The magnetic field from the rotating magnetic core provides a large amount of kinetic energy to the carrier and the toner particles moving toward the electrostatic latent image. Development to completion has been obtained with a rotating magnetic core development system. Completion is characterized by proportionality between the cube of the toner-charge-to-mass ratio,  $Q/m$ , and the voltage to completion,  $V_c$ , which is the difference between the developer bias and the voltage of the developed image.*

## Author Biography

*Eric Stelter works on electrographic development and related technology at Eastman Kodak, where he is a Senior Scientist in Advanced Development for the Graphic Communications Group. He has been granted more than 35 patents in this field. He began his career at Eastman Kodak Company after receiving his PhD in physics from the University of Illinois. He is an active member of IS&T, the American Physical Society, and the American Association for the Advancement of Science.*