

# The Effect of Silica Properties on Toner Charge and Printing Quality

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## Abstract

*Toner is composed of binder resins, colorant, charge control agent, wax and external additives.*

*Several kinds of metallic oxides such as silica, titania and alumina are used for external additives. Especially, silica is added to the toner particle surface for the improvement of toner flow, the control of triboelectric charge and the reduction of adhesion force between toner particles and other materials. That is, silica is one of the most important affecting factors on the toner physical and chemical properties.*

*In this review, triboelectric charge and printing quality of toner were discussed with respect to the effects of various silica types.*

*Various types of silica having different BET surface area, primary particle size and surface treating reagents were investigated for this review.*

*The optimum composition and desired type of silica to obtain better performance of the toner charging and printing quality were also designed.*

## Author Biography

*Seok Hoon choi received his M.S. degree in Polymer Science & Engineering from the Kyung-buk National University. He has been involved in development of nano-composite in Nanotechkorea from 2000 to 2002, and joined Samsung Electronics since 2003. Since then, he has been working on the development of toner materials.*