

Fumed metal oxide, a functionalized external additive and technical trend

Yuki Amano Nippon Aerosil

Lucia Wang, Shen Lan, Ying Song Degussa China

Fumed metal oxides (silica, titania and alumina) are used as an external additive for toner. In the first half of this session, production process and feature are explained. It's important to understand the properties of the materials to use as an external additive adequately. The primary particle sizes of metal oxides are varied from 7nm to 40nm, and the surface is hydrophobized. There are some treated reagents. The performance of an external additive is affected by the particle size, surface chemistry, and sort of core metal oxide.

The second half of this session, specific data and example for toner application will be introduced. Flowability, charge property and polishing property data are summarized. The data is one of the example, and each toner formulation is requested to be evaluated by own equipment. Toner performance is not only depended on materials. Matching of each material and production equipment will affect the performance. In the presentation, some new materials will be introduced. We hope this lecture will give you some hint of the evaluation or development.