

# Effect of Increased Proportion of Ultra Fine Ground Calcium Carbonate in Coating Pigments on Surface, Optical and Printing Properties

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## **ABSTRACT**

The effect of blending two grades of ground calcium carbonate pigments, namely, GCC-90 and GCC-95, with no. 1 Brazilian clay on surface, optical and printing properties of coated paper was studied. The coating mixtures were prepared with five combinations of clay and GCC keeping the proportions of binder and other additives constant. Different coat weights (11-40g/m<sup>2</sup>) on a 121-g/m<sup>2</sup> base paper were applied by means of laboratory K-Coater. The coated sheets were calendered on a laboratory supercalender. It was observed that the addition of GCC to the clay pigment reduced the viscosity of the coating mixture and increased the brightness, whiteness, and surface strength of the coated sheets. On the other hand, coating formulation having higher proportion of clay gave reduced oil penetration and increased gloss of unprinted and printed sheets.

**Keywords:** GCC, Coating pigments, Particle size, Viscosity, Brightness, Pick resistance, Stain length, Gloss, Print density, Print gloss.