

# **The Nature of the Products from Beneficiated Poned Fly Ash**

## **Abstract**

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Hydraulically classified and beneficiated ash has been produced from ponded fly ash from Kentucky Utilities Ghent Power Plant and Western Kentucky Energy's Coleman Power plant. Products include samples subjected to preliminary hydraulic classification and froth flotation and ultra fine ash (UFA) with mean particle sizes ( $D_{50}$ ) of 3 to 5  $\mu$ m produced by secondary hydraulic classification. The ash from both ponds is low calcium ASTM Class F fly ash. The ash is found to have excellent reactivity, despite being stored for many years. Mortar testing has demonstrate reduced water demand, which is substantial for the UFA, with decreases of up to 90% as compared to control materials. When used at substitution rates of 20% and 40% for standard portland cement, the ash produce excellent strength. The UFA even reduces or eliminates the delay in strength development that is typical for most Class F ashes.

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