

Abstract

Fly ash was used in this evaluation study to replace 30, 50 and 70 percent of the 400 lbs. of cement currently used in each cu. yd. of portland cement econocrete base paving mix.

Two Class "C" ashes and one Class "F" ash from Iowa approved sources were examined in each mix. When Class "C" ashes were used, they were substituted on the basis of 1.0 pound for each pound of cement removed. When Class "F" ash was used, it was substituted on the basis of 1.25 pounds of ash for each pound of cement removed.

Compressive strengths with and without fly ash were determined at 7, 28 and 56 days of age. In most cases, strengths were adequate.

The freeze/thaw durability of the econocrete mixes studied was not adversely affected by the presence of fly ash.

The tests along with erodibility and absorption tests have demonstrated the feasibility of producing econocrete with satisfactory mechanical properties even when relatively low quality and/or locally available aggregate is being used at no sacrifice to strength and/or durability.