

ABSTRACT

Fly ash was used to replace 15% of the cement in C3WR and C6WR concrete paving mixes containing ASTM C494 Type A water reducing admixtures. 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 pound of ash added for each pound of cement deleted. When Class F was used it was substituted on the basis of 1.25 pounds of ash added for each pound of cement deleted.

Compressive strengths of the water reduced mixes, with and without fly ash, were determined at 7, 28, and 56 days of age. In every case except one the mixes containing the fly ash exhibited higher strengths than the same concrete mix without the fly ash.

An excellent correlation existed between the C3WR and C6WR mixes both with and without fly ash substitutions.

The freeze-thaw durability of the concrete studied was not affected by presence or absence of fly ash.

The data gathered suggests that the present Class C water reduced concrete paving mixes can be modified to allow the substitution of 15% of the cement with an approved fly ash.