



Low concentration alkali fly ash cement and method of making

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Summary

The University of North Dakota has developed methods for making a low-alkali fly ash cement. The method includes forming a mixture of class C fly ash and an aqueous solution and producing a low-alkali fly ash cement from the mixture. The aqueous solution has an alkali at a molar concentration between about 0.002 M and about 2 M. The method continues by wet pressing the mixture and forming fly ash cement by curing the mixture at a temperature between about 60° C. and about 90° C.

Advantages

- Greater compressive strength than non-alkali fly ash cements
- Does not require large amounts of alkali activators which produce chlorine and HCl gasses
- Reduces pollution and finds a new use for waste
- Reduced energy use and carbon dioxide emissions

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