

High volume fly ash concrete for pavements

High volume fly ash concrete (HVFA) has very low water content and generally more than 40 percent fly ash as a partial replacement of Portland cement by mass. Because of the low water content, a high range water reducer or superplasticizer is used to achieve desired workability. In situations where high early strength and high slump is not required, the use of superplasticizer may not be necessary. The Institute has carried out a detailed investigation to study the suitability of HVFA for constructing concrete pavements. Important features of HVFA are:

- High volume fly ash concrete with fly ash up to 60 percent can be produced to meet the requirements of strength and workability for pavements
- The percentage increase in the long term compressive strength of HVFA mixtures is more than that of conventional concrete (Fig.)
- The abrasion resistance of HVFA is similar to conventional concrete of equivalent compressive strength
- HVFA mixes shows lower drying shrinkage as compared to conventional concrete.

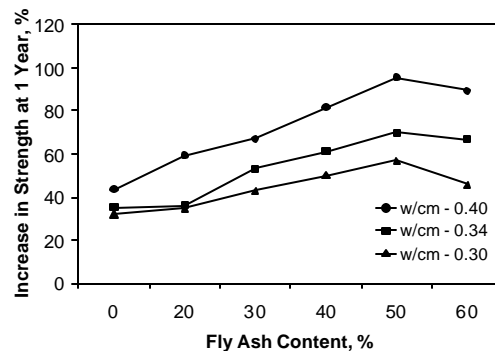


Fig. fly Ash Content vs Increase in Compressive Strength at 1 Year

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