

# Effect of Alccofine on the Mechanical and Durability Performance of Concrete

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## Abstract

This paper presents the study on the mechanical and durability properties of concrete at two different grades containing alccofine at different percentages of replacement. Investigation on the performance of alccofine concrete was performed for M25 and M40 grade at 0%, 5%, 10% and 15% replacement levels at 7, 14, 28 and 90 days. The influence of alccofine on the autogenous shrinkage properties of the alccofine added concrete was tested for both the grades of concrete in the sealed and unsealed conditions. The workability property of alccofine added concrete was examined at various levels of replacement by the slump cone test. The mechanical properties of the alccofine added concrete were investigated through estimation of compressive strength and elastic modulus at 7, 14, 28 and 90 days respectively. Acid attack was conducted at 28 days and autogenous shrinkage of the alccofine added concrete was investigated using length comparator at 28 day in the sealed and unsealed conditions. Results indicate that upon increase in the percentage of alccofine, the mechanical properties of the concrete increases at higher ages. Furthermore, the autogenous shrinkage of concrete tends to increase upon increase in the percentage of the alccofine at both the grades of concrete.

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