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Strength of Concrete in Slabs, Investigates along Direction of Concreting

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ABSTRACT

In theory of concrete it is assumed that concrete composites are isotropic on a macro scale. For example, it is assumed that a floor slab ' s or a beam ' s strength is identical in all directions and its nonhomogeneity is random. Hence neither calculations of the load-bearing capacity of structural components nor the techniques of investigating concrete in structure in situ take into account to a sufficient degree the fact that the assumption about concrete isotropy is overly optimistic. The present research shows that variation in concrete strength along the direction of concreting has not only a qualitative effect (as is commonly believed), but also a significant quantitative effect. This indicates that concrete is a composite which has not been fully understood yet. The paper presents evaluations of ordinary concrete (OC) homogeneity along component thickness along the direction of concreting. The ultrasonic method and modified exponential heads with a point contact with concrete were used in the investigations [1-3].

KEYWORDS

Concrete; Compressive Strength of Concrete; Non-Destructive

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