

# Cover meter test assignment

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Table of Contents Background Information Basic Information It will be useful if we can determine the cover or distance of the reinforcement from the nearest concrete surface of the structure without destroying or cutting the member. A large number of attempts have been made but only the method involving electromagnetic principles has been successful. (Raw, 1949) How a Cover Meter Works? The change of inductance of an iron cored inductor known as ' search unit' due to the proximity of the reinforcing bar is used to measure the ' cover'.

The search unit is moved on the surface of the concrete and rotated till the maximum deflection is seen in the indicator. The meter is calibrated with the concrete block and thereafter the search unit is used to find the position of the reinforcement in structures. (Raw, 1949) Importance of Cover Meter in the Industry Diameter and position of the reinforcement in concrete structures are important parameters for the evaluation of the durability and the stability of the building structures. A lot of samples are needed to assess the remaining life time and to determine the optimum date for rehabilitation of a building structure.

A reliable durability analysis can be yield only by nondestructive testing methods. Even when detailed structural-drawings are available they often must be regarded as a useful tool by means of additional information about the structure under investigation. (Reinhardt, 1991) Nondestructive control of the cover and size of reinforcement in addition to other testing parameters like for example, the permeability of the concrete, immediately after construction may be help to improve the durability of the building structure in an early stage. Reinhardt, 1991) Accuracy if Cover Measurement

It must be indicated clearly that the overall accuracy of concrete cover measurements depends in an equal way on the combination of: i) The characteristics of the devices, in terms of: stability, insensitivity to temperature changes, ease of calibration and handling, display of data and mainly on the reliability of the measuring method itself. ii) The statement of the problem itself with respect to rebar configuration, pre-information and accessibility etc. iii) The qualification of the personnel in terms of the experience in cover measurement and training in the equipment of the civil engineering know-how for the interpretation of data. Objective: i) To locate reinforcing bars within a concrete structure (slab). ii) To estimate bar size.

Materials and Tools: i) pinpoint the location of the rebars in the concrete ii) Slab with concealed reinforcement to be located- is for the experimental investigation iii) Metal ruler- is for measure the millimeter when do experiment iv) Chalk- to do marking on the slab when carrying out experiment Part A: Locating the Reinforcement Procedures: 1) The assigned slab panel is divided into regular grids using a chalk and ruler. 2) The cover meter will be automatically switched on when the search head is unconnected to the meter.