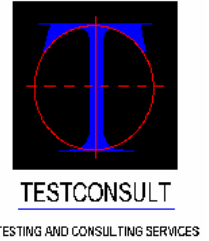


STRUCTURES DATA SHEET 6

Reinforcing Steel Cover Survey



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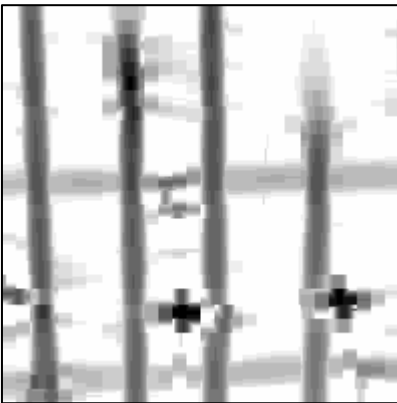
Adequate cover to the steel reinforcement in a structure is important to ensure that the steel is maintained at a sufficient depth into the concrete to be well away from the effects of carbonation or aggressive chemicals. Covermeters may be used for the immediate non-destructive checking of steel reinforcement in structures. The use of Covermeters together with requirements for accuracy is contained within British Standard 1881: Part 204.

The presence of reinforcement in concrete can be detected by the influence that reinforcing steel has upon an electromagnetic field generated by the Covermeter. The Covermeter operates by inducing an eddy current in the reinforcing steel, secondary coils in the Covermeter survey head detects these eddy currents enabling position, and an estimation of depth and bar diameter to be made.

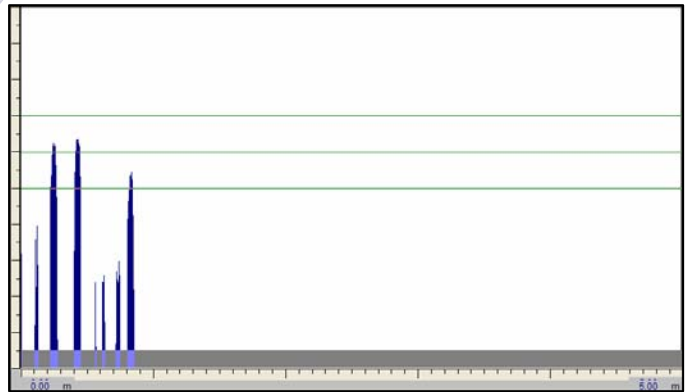
The position and direction of steel reinforcement is determined by moving the search head of the Covermeter over the surface of the structure until the meter shows a maximum deflection. At this position the reinforcing bar is below and parallel to the length of the search head. This technique can be applied to establish the pattern and spacing of reinforcing bars embedded in concrete.

If the concrete cover is known, the maximum deflection reading can be used to assess the diameter of the reinforcement bar.

For highly detailed reinforcing bar surveys where both depth and diameter of reinforcing need to be ascertained then we recommend using the HILTI Ferroskan. With the Ferroskan, a representation of the embedded rebar is generated on screen. With a hard copy of the image to work from, the Engineer is able decide where holes are to be drilled or determine rebar configuration for structural analysis purposes. The images may be evaluated by viewing transverse or longitudinal sections at different depths. All scanned data can be downloaded onto a PC for further analysis, interpretation and printed output.



Typical Imagescan output



Typical Quickscan output