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PROJECT TITLE :
MANUFACTURING PROCESS OF ICP SPUN PILE.



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METHOD STATEMENT OF ICP PILE PRODUCTION AND QUALITY CONTROL CHECKS

This statement is to be read in conjunction with the attached diagram. At the end of each process, quality check is carried out as shown in the diagram.

PC "Ulbon" bars in coil form are straightened and cut to the required lengths by the bar-cutting machine. Both ends of the bars are then heated to form button heads by heading machine.

The specified number of ulbon bars are then formed into cages by spot welding of spiral wire at specific pitch using automatic cage-making machine.

End plates with welded collars are fitted to the cage manually so that the button heads of the PC bars sit into the counter-sunk holes of the plates. Stressing attachments are also fixed onto the end plates. The assembled cage is then placed into the bottom half mould for concrete feeding.

Concrete is batched by a computer-controlled batching plant and discharged into the bottom half mould through a screw feeder. Concrete is fed uniformly throughout the bottom half mold before the top half mould is placed on and tightened by means of suitable bolts and nuts. The mould is then sent for prestressing by pile trolley.

A hydraulic jack stresses the ulbon bars and the elongation of the bars is measured and checked. The prestressing force is held by means of a shaft and locking nut mechanism.

The mould is then spun on the spinning machine in different stages of speed and time until the concrete is compacted by centrifugal force. The excess water squeezed out during the spinning cycle is then drained off.

The pile is then placed into the curing chamber for steam curing. After completing the curing cycle and ensuring the required concrete strength is achieved, the prestressing force is then transferred to the pile by loosening the lock nut of the stressing shaft. The demoulding pile is then checked by a Q. C. inspector and properly identified with paint markings. The pile is then placed into the autoclaving chamber for the autoclaving process. The pile is then transferred to the stockyard for storage before deliver to the site.