



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING (Autonomous)

L.B.REDDY NAGAR, MYLAVARAM-521 230.A.P. INDIA

Affiliated to JNTUK, Kakinada & Approved by AICTE, New Delhi

NAAC Accredited with "A" grade, Accredited by NBA

New Delhi & Certified by ISO 9001:2008

DEPARTMENT OF CIVIL ENGINEERING (C.E Dept)

<http://www.lbrce.ac.in>, hodcivil@lbrce.ac.in Phone: 08659-222933, Fax: 08659-222931

INDUSTRIAL VISITS ORGANIZED

A.Y	PROGRAM	NAME OF INDUSTRY/COMPANY	DATE	NO OF STUDENTS PARTICIPATED
2015-16	B.Tech	Prestressed Concrete Slab at Mylavaram	19-12-2015	100
2015-16	B.Tech	Low Cost Housing Complex, Kethanakonda	21.03.2016	90



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INDUSTRIAL VISIT

Industry visit details: Prestressed Concrete Slab at Mylavaram

Date : 19-12-2015

Post-tensioning is a form of prestressing. Prestressing simply means that the steel is stressed (pulled or tensioned) before the concrete has to support the service loads. In pre tensioning, the steel is pulled before the concrete is poured. Post-tensioned concrete means that the concrete is poured and then the tension is applied-but it is still stressed before the loads are applied so it is still prestressed. Post tensioning is a technique used for reinforcing the concrete. Post-tensioning tendons, which are prestressing steel cables inside plastic ducts or sleeves, are positioned in the forms before the concrete is placed. Afterwards, once the concrete has gained strength but before the service loads are applied, the cables are pulled tight, or tensioned, and anchored against the outer edges of the concrete.

Advantages of post tensioning

- It reduces or eliminates shrinkage cracking-therefore no joints, or fewer joints, are needed
- Cracks that do form are held tightly together
- It allows slabs and other structural members to be thinner
- It lets us design longer spans in elevated members, like floors or beams

The post-tensioned slab at Mylavaram temple is of 16m x 20m span with 3 capitals. Cable profile is arranged in capitals and slab. Post-tensioning is being carried out at the site. 2-core cables are inserted in each duct. Each cable consists of 4 no,s of 6mm steel wires and 2 such cables are placed in the duct. Tensioning is done after curing of concrete. The grade of concrete is M35, while 8mm and 10mm (HYSD) diameter bars are used as reinforcement. The slab is a part of open auditorium in the temple where functions are organized during festivals and on special occasions. The cable is arranged as per the bending pattern on the slab. A minimum number of 2 to 4 cables are arranged as per the design loads on slab. This is the first of its kind of prestressed construction in Mylavaram and its surroundings. Students have got fairly good exposure in term of laying, sizing and functioning of post tensioning aspects during the visit.





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About the Visit

The Government of Andhra Pradesh planned construction of houses for low income groups in vast numbers and wanted to test the available technologies around the world for bulk housing at low cost. The low cost housing complex at Kethanakonda near Ibrahimpatnam comprises of various models of houses constructed using technologies from China, Malaysia, Turkey, India etc.

The Project Manager explained about the various models which were constructed in the colony and briefed about the various models used in the constructions and the methods developed in their construction. The advanced technologies like expanded polystyrene, shear wall, steel structure with AAC block masonry, pre cast RCC are used in the constructions. The focus is given to construction using light weight and heat resistant materials. Almost similar houses are constructed by adopting different technologies with same floor area (300 sft).

The visit is extremely useful in understanding the advanced technologies available in constructing houses with features such as light weight, heat resistant, durable, simple and low cost.