

# The Freyssinet Prestressed Concrete Co. Ltd.

PROJECT REPORT FOR

## **ETHYLENE STORAGE TANKS AT DAHEJ (SEZ), BHARUCH, GUJARAT**



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## **INTRODUCTION**

The Freyssinet Prestressed Concrete Co. Ltd. have Completed one more prestigious project of Ethylene storage tanks at dahej (SEZ), Bharuch Gujarat. FPCC had completed similar project of ethylene storage tanks at Dahej (SEZ) in 1997 for INDIAN PETRO - CHEMICALS LTD. SEZ-special economic zone, has been developed by Gujarat government for industrial development at dahej. Many petrochemicals company has been established in this zone.

Our team has successfully achieved the prestressing works for the Ethylene storage tank at Dahej, Gujarat. Total two tanks have been constructed. Both Tanks have horizontal as well as vertical tendons.

Storage Tank Dimension- Height-20 meter and Diameter-50meter

No. of Buttress (Ribs) - 4,

**High tensile Prestressing strand Quantity-165MT**

**Horizontal Tendons-19K15 Anchorage-144 No's**

**Vertical tendons-12K15 anchorage-176 No's**

The tank to be constructed is double walled storage containment for Ethylene.

The following organizations are involved in this contract:

Client	: M/s ONGC PETRO additions LIMITED (OPaL)
Main Contractor	: M/s VIJAY TANK & VESSELS LTD.
PMC	: M/s ENGINEERS INDIA LIMITED
Design Consultant	: M/s WHESOE OIL & GAS LIMITED
Sub - Contractor	: M/s. ITD CEMENTATION INDIA LTD.
Post-tensioning sub Contractor	: M/s THE FREYSSINET PRESTRESSED CONCRETE CO. LTD

### **SPECIAL FEATURES OF THE PROJECT:**

Both tanks were constructed with climbing form (one by one lift) of concreting, casted in different pours. This system had allowed entire system to focus on quality of the prestressing work, as well as other structural activities.

### **Full length Grout Trial Test:**

To assure quality of grout, a grout trial test for full length of tendon was carried out.

A semicircular beam of 80 meter length was casted on the ground with prestressing anchorage.

When it had achieved strength, was threaded by post tensioning strands and stressed.

After stressing it was grouted with suggested suitable admixture to ensure good quality of grout.



Grouting operation was done as per in accordance with “FIP Grouting of Tendons in Prestressed Concrete: Guide to good practice” and grout found during the grouting was meeting the requirement as per grout specification, described in methodology.

To assure, whether grout has been filled thoroughly inside the duct, three sections were taken at frequent interval along the length of the beam. The section were observed and found completely filled with hardened grout, without any air pockets. Cube strength report of grout was also found satisfactory.





### Prestressing activities:

All prestressing activities such as strand installation and stressing of tendons were completed satisfactorily. Stressing of entire tanks has been performed as per predefined sequence. Grouting of all vertical & horizontal tendons was completed to the required quality & standards.

**With the completion of this project, company has completed total 6 cryogenic tanks in India. We congratulate clients, consultants, contractor and to our entire prestressing team for the successful completion of this project.**