

# MEHRAN CEMENTING

**MEHRAN**  
Engineering and Well Services





**MEHRAN**

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## CONTENT

01   COMPANY	4
02   THE CORPORATION ( VISION & MOTION, HARD FACT )	5
03   CEMENTING DEPARTMENT	6
04   CEMENTING TRACK RECORD	7
05   CEMENTING LABORATORY	10
06   CEMENTING ENGINEERING	12
07   CEMENTING OPERATION	14
08   MEHRAN CEMENTING SUPPLIERS	15
09   CEMENTING EQUIPMENT LIST	16
10   MEHRAN OPERATION YARDS	26
11   CEMENTING REFRENCES	27

# OUR COMPANY



MEHRAN Engineering and Well Services Co. is one of the most reputable Iranian companies in delivering full chain of petroleum engineering and field services in onshore and offshore throughout over one decade of continuous presence in the market.

With over 500 employees, more than nine tremendous operation bases in Kish island, and Ahwaz City and all latest technologies, the company serves customized innovative upstream services from engineering, design, consultancy and planning to drilling, well construction, completion and optimization in the oil and gas industry.

Immediately after being founded in 2000 by a team of highly experienced professionals, MEHRAN began its rapid development in fleet, technology, and man power. This fact alongside with the company commitment to high standard services, HSEQ policies, continuous improvement and integrated management resulted in accomplishment of many projects for international and domestic clients such as TOTAL, ENI, PTTEP, POGC, IOOC, NIDC, PETROPARS, PETROIRAN, DANA, OIEC, NIOCEXP, ICOFC, etc.

**We proudly provide following services to the market:**

Cementing, Stimulation and Fracturing, Coiled Tubing and Thru Tubing, Welltesting and DST, Pumping and Nitrogen lifting, Slickline, Wellhead and Completions, H2S Safety, Directional Drilling and Surveying, Integrated Drilling Services, Petroleum Engineering & Supplies and Sales.

# THE CORPORATION

Mehran is a multi-disciplined oilfield service company focused on our home markets in the Iranian Offshore market with more than 15 years experience. Through our people's commitment to service delivery, we provide best in class industrystandard service through passion, knowledge and on-ground local experience. Our internationally experienced personnel are determined on solving our customer's challenges by utilizing state-of-the-art equipment. Our strong track-record with Iranian major oil companies and operators has been the key proof of our trust worthiness to our valued customers. It is the source of our pride and success.



## MISSION

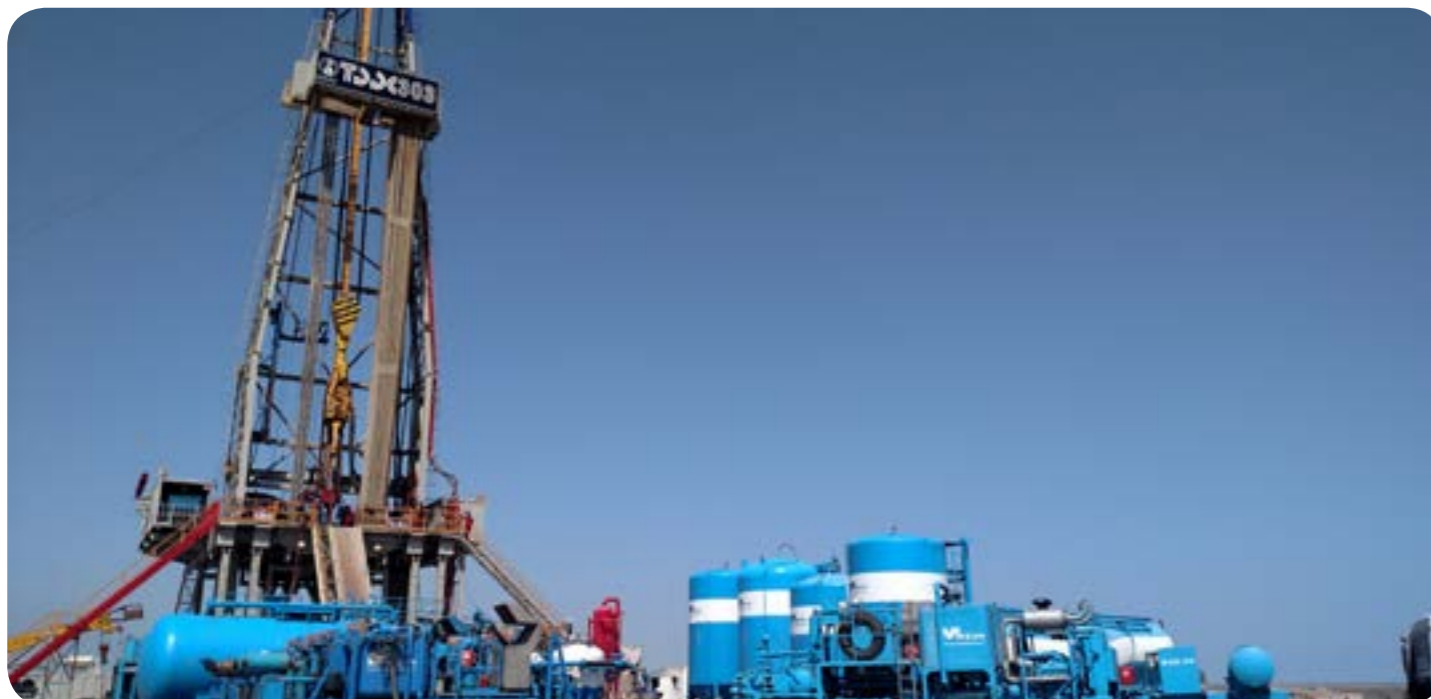
To be our client's first choice and most trusted partner in all our business lines through the passionate and consistent engagement of our people, by considering every single operation as «mission critical» and successfully delivering the best service available, following quality driven processes in a safe and environmentally responsible manner.

 <p><b>+500 PROFFESIONAL STAFF</b></p>	 <p><b>HIGH QUALITY EQUIPMENT, MATERIAL</b></p>	 <p><b>ASSET MANAGEMENT SYSTEM</b></p>	 <p><b>ENGINEERING, SIMULATION &amp; ANALYSIS</b></p>
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**Values:**

Passionate and consistent engagement Relentless approach to service quality Constant improvement within organization best in class industry-standard training

## CEMENTING DEPARTMENT



MEHRAN Cementing has been operating in both oil and gas fields since 2003, delivering full scope of cementing and high pressure pumping services in Iran. We are considered as one of the cementing services pioneers in providing full integrated chain of additives procurement, engineering and job design, laboratory testing, utilizing related software's for job simulation, field execution of programs in both onshore and offshore fields.

The most valuable potency of Mehran Cementing services is integrated services and minimizing the risk of interfaces between shareholders in cementing operation leads to

improving the success probability.

We adhere to highest service standards and state-of-the-art procedures and international regulations. We offer industry accepted cementing solutions that MEHRAN has engineered to meet international industry compliance standards in terms of reliability, safety forefront in operations and operation/engineering efficiency.

Mehran cementing engineering head office is located in Tehran and also has operational base including full equipped cementing laboratory in Kish Island and Ahwaz and combining a fleet of skid mounted and trailer

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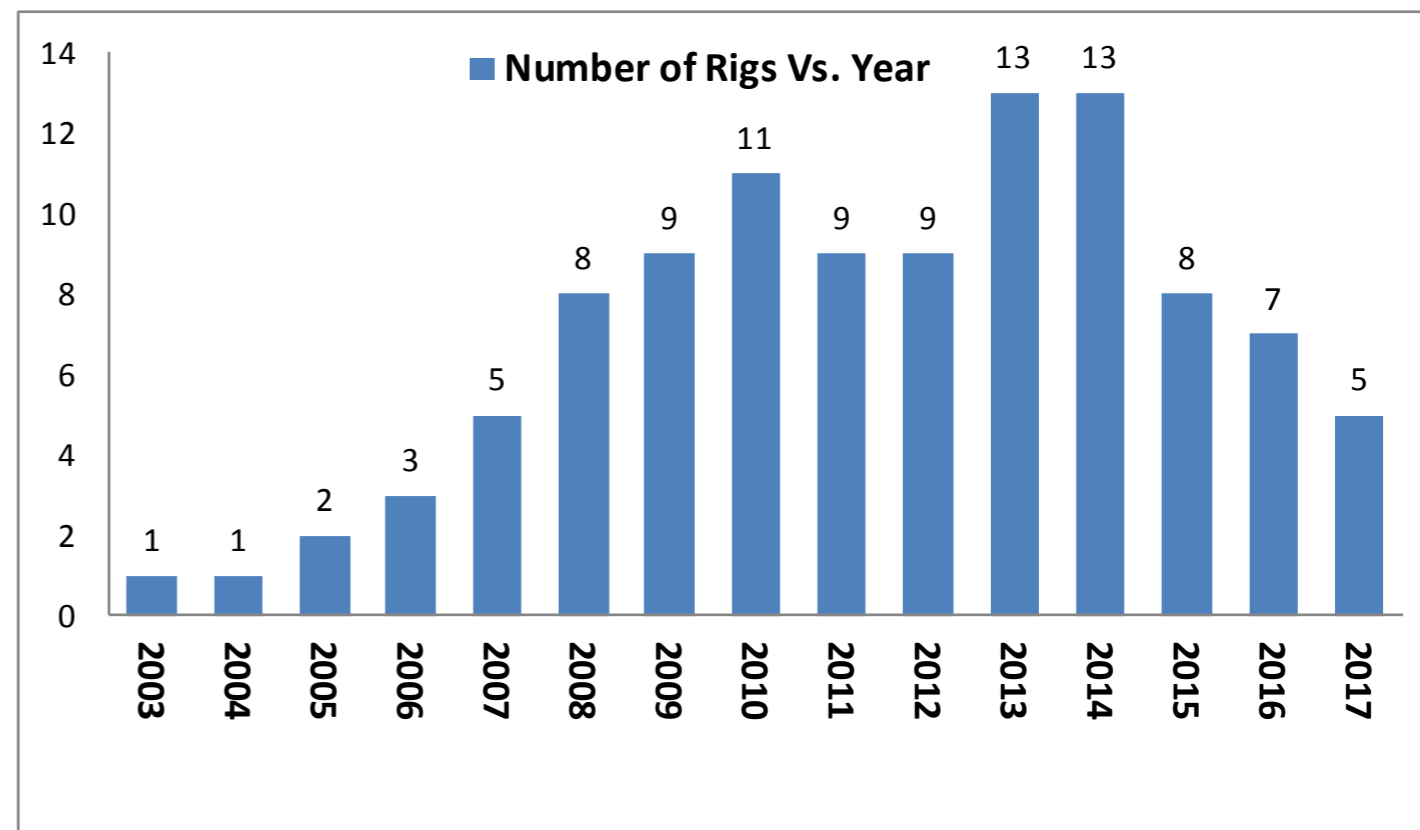
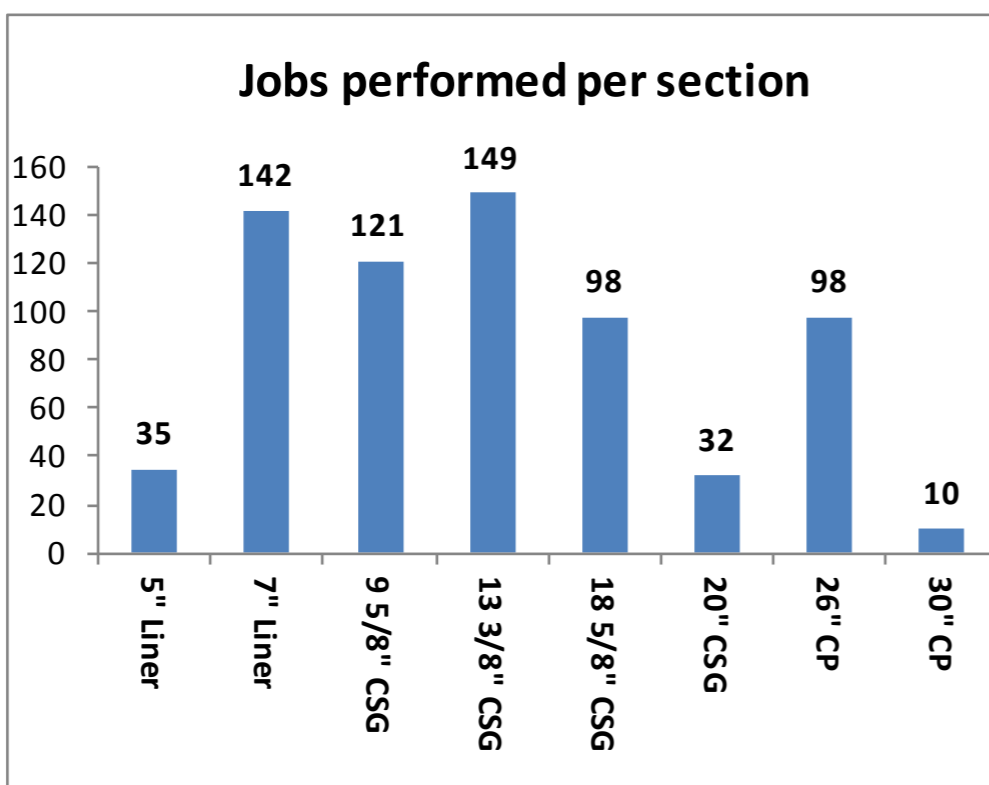
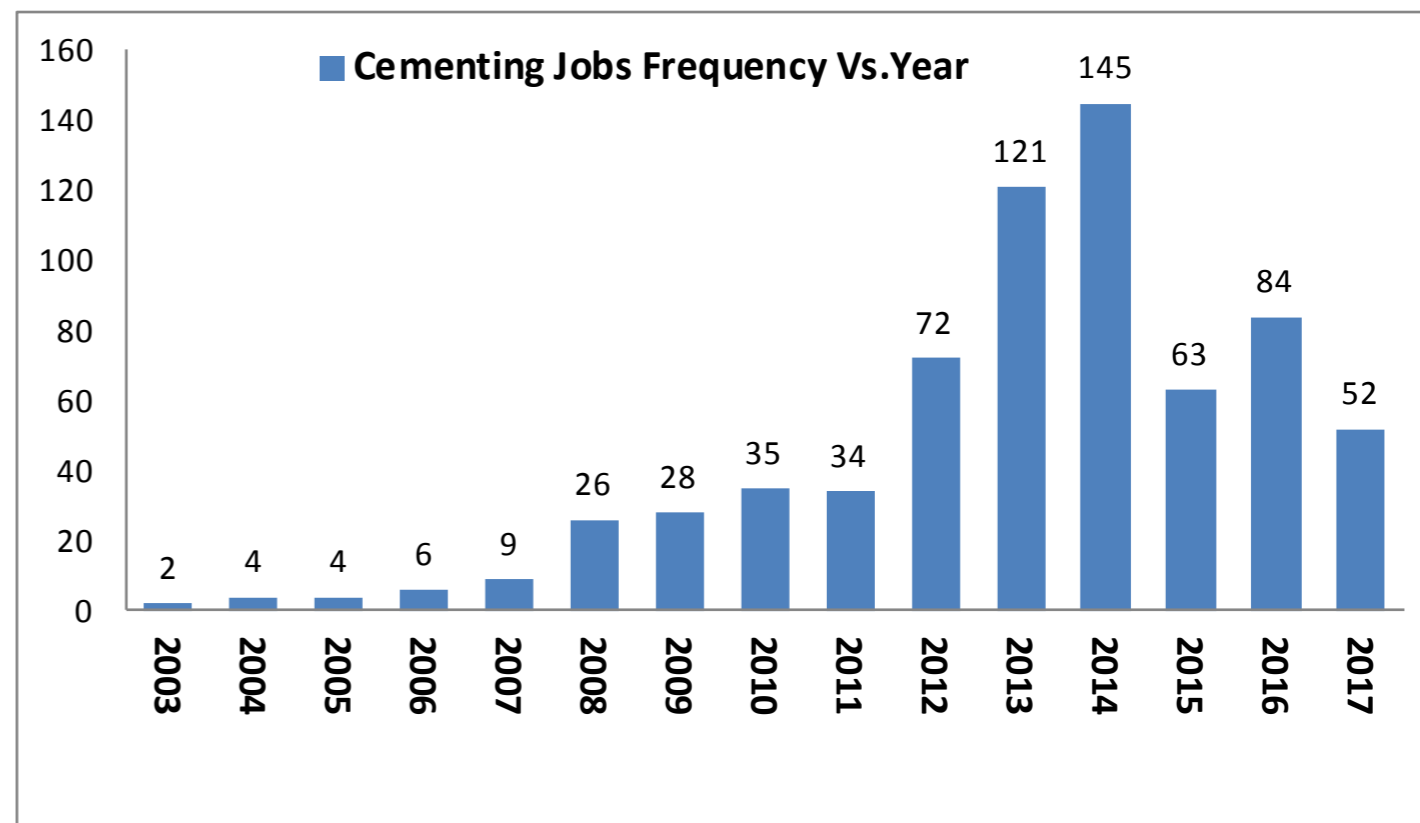
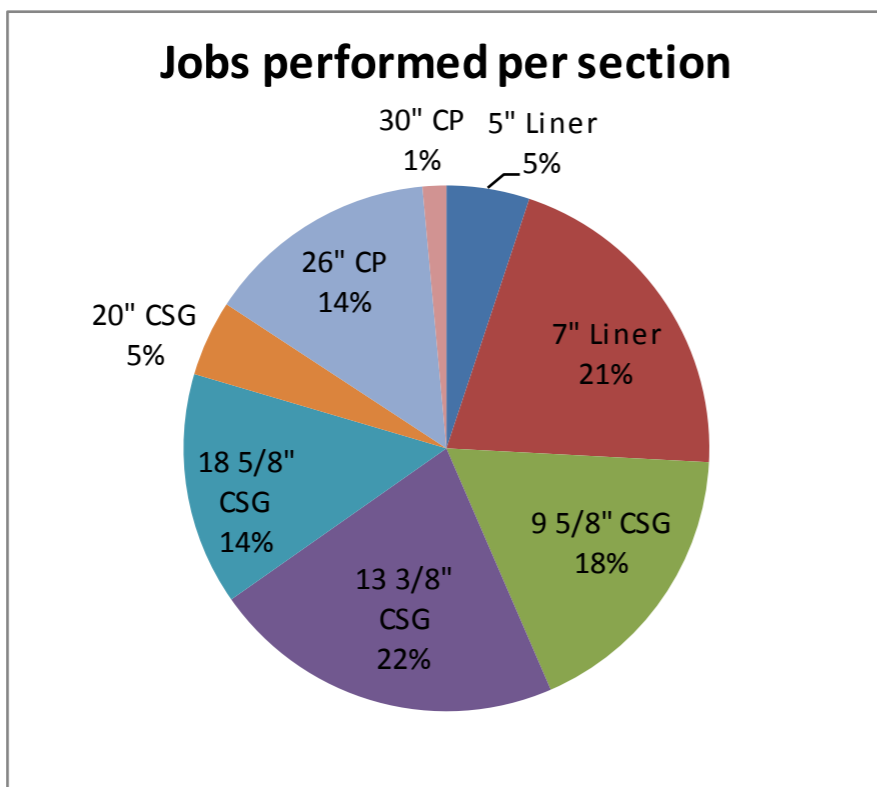
*We've left an inclining trend of improvement since we started operating both in quality and statistics. We benefit our commitment to feedback analysis and continuous improvement.*

## CEMENTING TRACK RECORD TILL AUGUST 2017

Mehran cementing service has performed more than 2200 cement job until August 2017 that consist of casing, liner and all types secondary cementing jobs.

<b>Job Type</b>	<b>Jobs performed per section</b>
5" Liner	35
7" Liner	142
8/5 9" CSG	121
8/3 13" CSG	149
8/5 18" CSG	98
20" CSG	32
26" CP	98
30" CP	10
Secondary Cement Plugs	1553
<b>Total</b>	<b>2238</b>

# CEMENTING TRACK RECORD TILL AUGUST 2017



# CEMENTING LABORATORY

MEHRAN Cementing Additives, as a critical part of the whole cementing engineering and operation system, as an integral stage of cementing services, are provided from the best manufacturers worldwide with field proven records to guarantee the quality and the final results.

MEHRAN laboratory is continuously testing and evaluating the additives to maintain the quality and performance of the desired designs for normal and special operations.

Chemical characterization typically involves quantitative or qualitative analysis of the slurry components prior to mixing in order to ensure their suitability for use. Analytical techniques are used for quality control purposes through all the stages of manufacturing, transportation, storage and application. Such techniques are also used to monitor the quality of the mix water on location.



**SLURRY PREPARATION AND RHEOLOGY DETERMINATION**

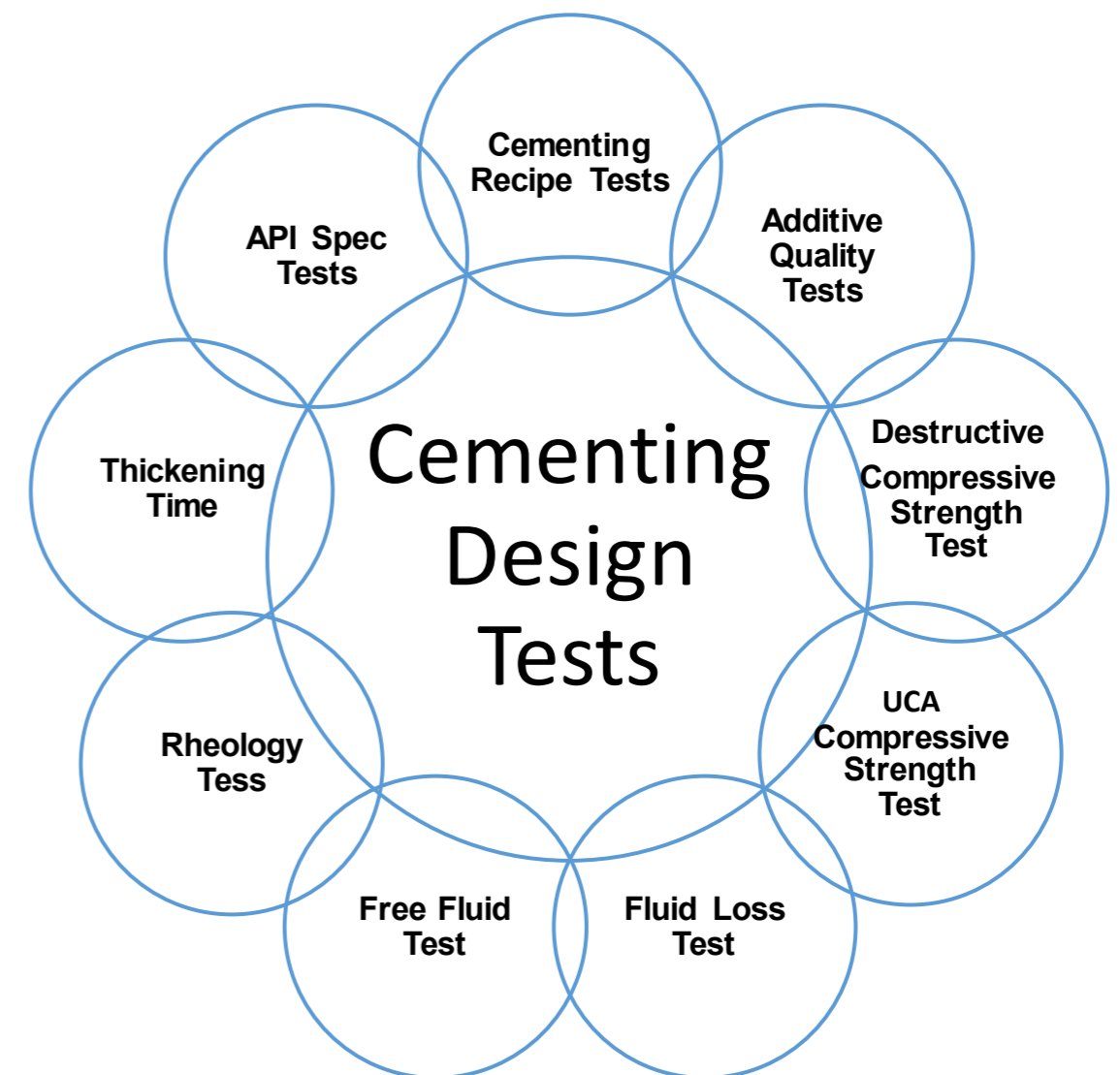


**DOUBLE HPHT CONSISTOMETER (CEMENTING OPERATION SIMULATOR)**



**ULTRASONIC CEMENT ANALYZER (REAL-TIME MONITORING OF CEMENT COMPRESSIVE)**

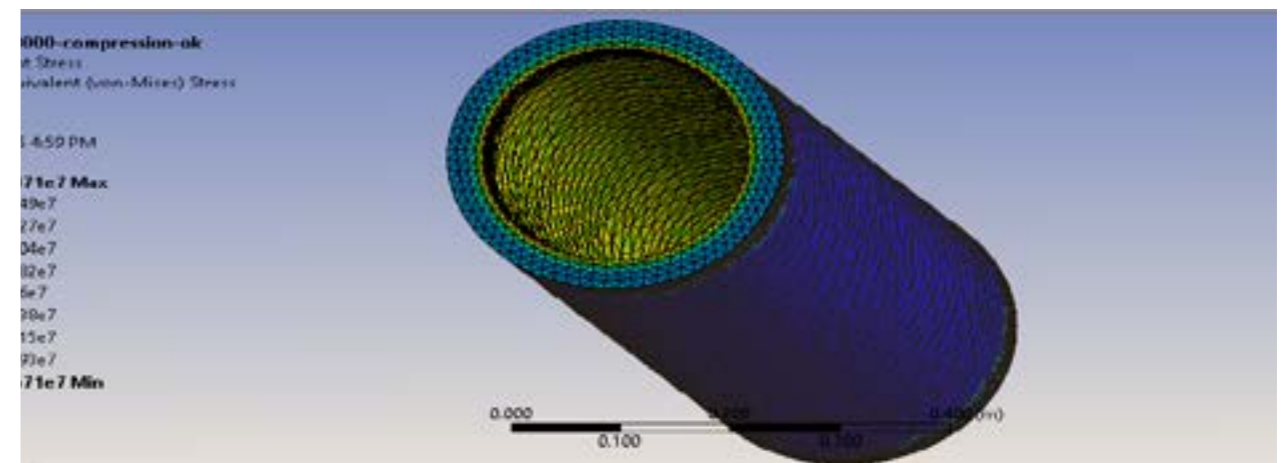
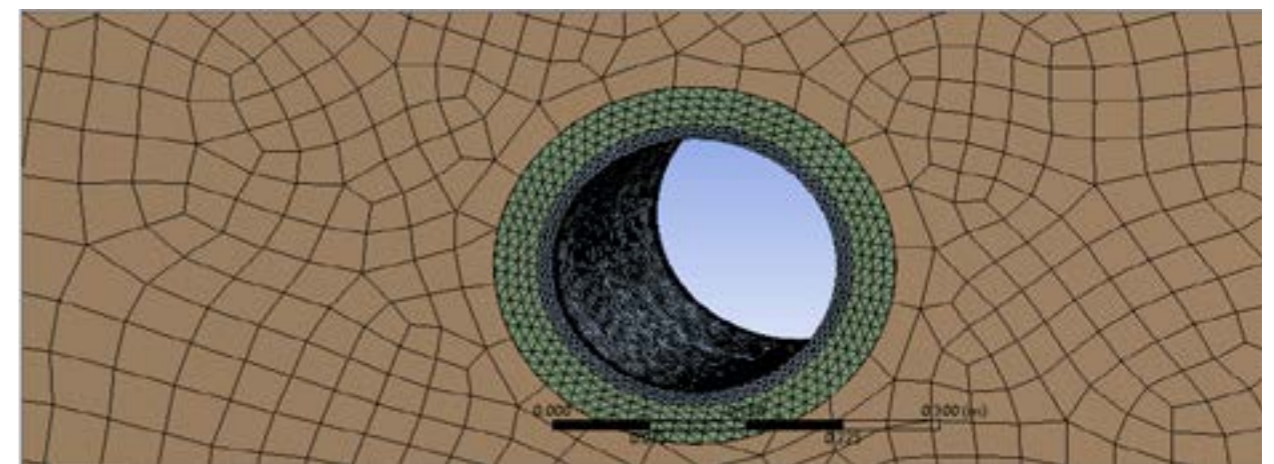
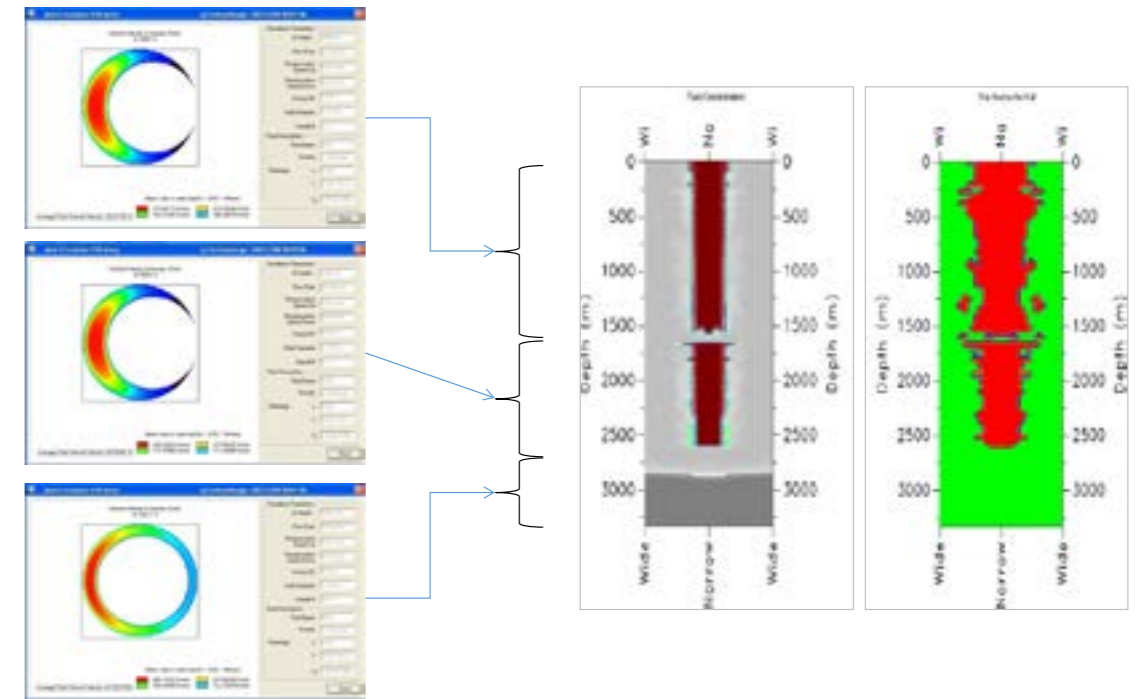
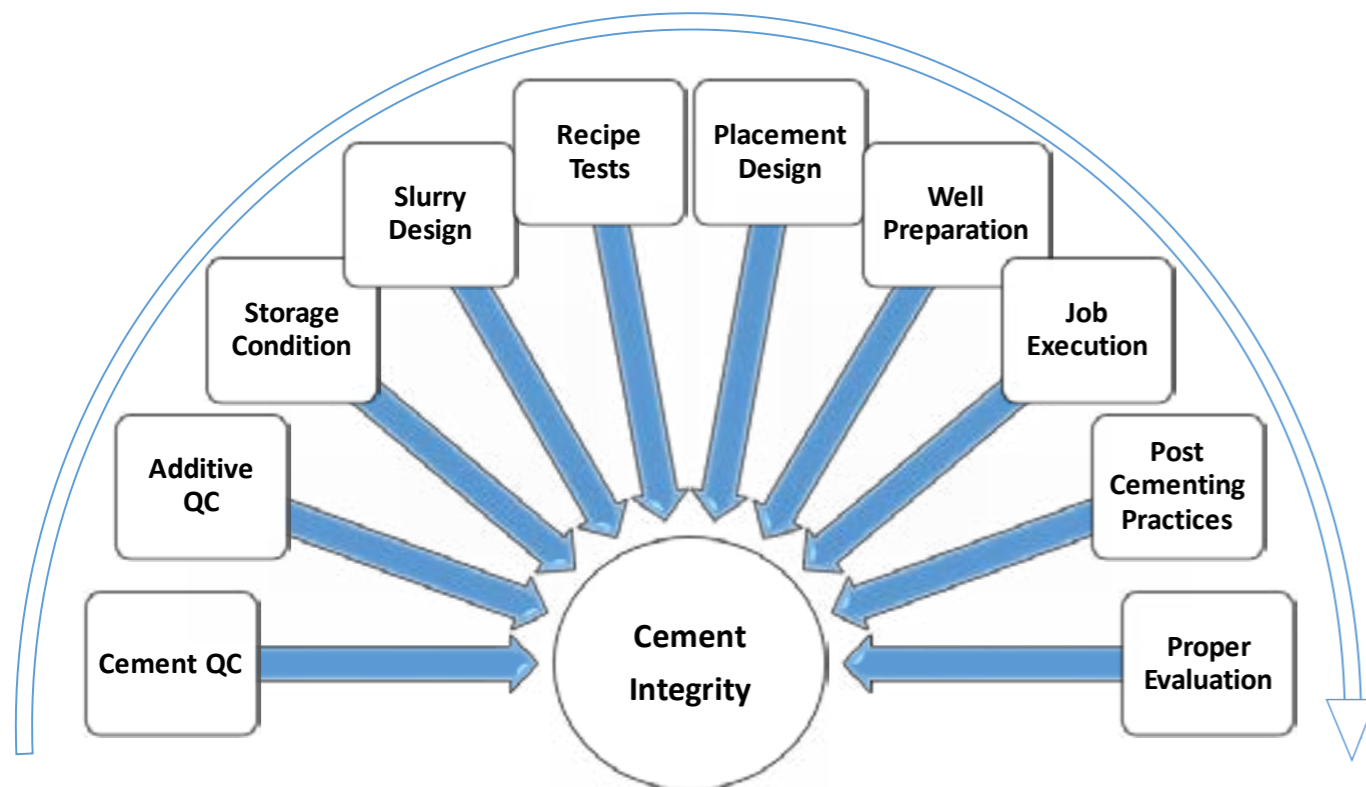
Characterization of cements and cementing additives in the laboratory involves the application of appropriate analytical techniques to provide a chemical and physical description of the sample as a whole or of the chemical constituents of the sample.



# CEMENTING ENGINEERING

Through the experience and knowledge of our people and a commitment to innovation, Mehran decided to hire high quality-experienced petroleum and chemical graduated engineers in cementing department that have capability to design and simulate cementing and post cementing operations to find the optimum condition for all effective parameters on final set cement including mud removal, centralizer placement, cement slurries and pre-flushes properties and set cement stress analysis. Also, our engineering team predominate to interpretation pumping and cement logs data to post evaluate cementing job which is the main part of our engineers schedule to improve and examine our quality.

Cementing process design in MEHRAN benefits the support of a state-of-the-art laboratory to conduct full chain of recipe tests and the quality control tests and analyses implied by the standards. Strict quality control, lab testing of cements and additives is an essential part of the process which ends in tailoring the spacers, chemical washes and slurry recipes. Testing begins at the manufacturing plants to monitor assure the quality of the materials followed by all QC tests on the received pure materials and performance tests of the designed recipes at MEHRAN laboratory to meet the pre-defined objectives anticipated from the slurry. Results of all



## CEMENTING OPERATION

- Cementing Service on IOOC rigs 2016-2003
- Cementing Service on Saveh Block by PTTEP Company 2009-2007
- Cementing and Pumping Service on Kharg Island by TOTAL 2008
- Cementing Service on Farzad Field by Petropars Company 2012
- Cementing Service on SPD19 by Petropars 2015-2012
- Cementing Service on SPD14A/C by NIDC 2017-2011
- Cementing Service on SPD21/20 by OIEC 2016-2014
- Cementing Service on SPD17B/18B by DANA 2016-2014
- Cementing Service on SPD13B by Petropars Company 2015-2014
- Cementing Service on SPD12 by Petropars Company 2014-2013
- Cementing Service on South Azadegan by TDDC 2017-2016
- Cementing Service for work over well 13A05- by PGFK rig less 2016
- Cementing Service for work over wells SPD13A by MUBARAK Company 2017-2016
- Cementing Service for work over well SPD06-11 by NIDC 2016
- Cementing and Pumping Service on SPD5-2 by POGC 2014-2012
- Cementing Engineering Service on Khangiran Field by ICOFC 2009-2008
- Cementing Service on SPD 14B/D by IOEC 2017-2016



**121**

Total number of 9 5/8 inch casing cementing operation

**142**

Total number of 7 inch liner cementing operation

**35**

Total number of 5 inch liner cementing operation

## MEHRAN CEMENTING SUPPLIERS

### Cementing Material (offshore projects):

- Union Cement Company (UCC) - UAE
- Ras Al Khaimah Cement Company (RAKCC) - UAE
- BASF (Cement Additives) - Germany
- AUBIN (Cement Additives) - Scotland
- ELKEM (Cement Additives) - Norway

### Cementing Material (onshore projects):

- Kerman Cement Company - Iran
- Delijan Cement Company - Iran
- Petro Kavir Asia (Cement Additives) - Iran
- Petro Kav Dalan (Cement Additives) - Iran
- Bavand (Cement Additives) - Iran
- Naft Gostar (Cement Additives) - Iran
- Emen Tash Sepahan (Cement Additives) - Iran
- Kamel Petro Tech (Cement Additives) - Iran
- Iran Magnesite (Cement Additives) - Iran

### Cementing Operation Equipment:

- SJS (Serva) Company - China
- FMC Technologies - US
- WEIR (SPM) - UK
- TOP OILED - UAE

### Cementing Laboratory Equipment:

- AMETEK (Chandler Engineering) - US
- Cement Test Equipment (CTE) - US
- Fann - US
- OFITE - US



# CEMENTING EQUIPMENT

01 | TRAILER AND SKID MOUNTED CEMENTING UNIT

02 | BATCH MIXER

03 | SURGE TANK

04 | CEMENTING HEAD AND CIRCULATION SWAGE

05 | BULK PLANT SYSTEM

06 | SOLUTION TANK

07 | RETRIEVALBE TEST TREATMENT SQUEEZE (RTTS) PACKAGE

08 | CEMENTING LABORATORY APPARATUS

## CEMENTING UNIT



### DESCRIPTION

Mehran cementing departement has seven skid mounted and one trailer mounted cemenitng unit to support offshore and onshore drilling operation. The intelligent data acquisition system is designed to monitor and record all pertinent cementing data. The SERVA VIEW software has been used as cementing data acquisition software as real time monitoring and reporting.

Trailer Mounted Cementing Unit	Skid Mounted Cementing Unit
2 x Enginee:	2 x Enginee:
Detroit Diesel - 8V71	CAT C13
Horse Power: 450 BHP	Horse Power: 475 BHP
2 x Transmission: 2 set	2 x Transmission: 2 set
Allison HT750	Allison 4700 OFS
2 x High Pressure 4 inch Plunger	High Pressure 4 inch Plunger
HT400 Pump	TPH400 Pump
Maximum Pumping Rate: 10.6 BPM	Maximum Pumping Rate: 16.9 BPM
Maximum Working Pressure: 11000 psi	Maximum Working Pressure: 14000 psi
Low Pressure Pumps:	High Pressure 4.5 inch Plunger
4*3 C-Pump	TPH400 Pump
5*6 C-Pump	Maximum Pumping Rate: 16.9 BPM
Mixing Tub Capacity: 8 bbls	Maximum Working Pressure: 11000 psi
Displacement Tank Capacity: 2 x 10 bbls	Low Pressure Pumps:
	4*3 C-Pump
	5*6 C-Pump
	Mixing Tub Capacity: 8 bbls
	Displacement Tank Capacity: 2 x 10 bbls

## BATCH MIXER



### DESCRIPTION

Mehran cementing department utilizes batch mixers for all liner cementing operation and also for preparation of tail cement slurry of production casing for rigs the probability of solution contamination in the pit expected and the client have concern on preparing homogenous tail cement slurry . The twin batch mixers available in Mehran categorized in wide range of capacity to support short and long wells.

Batch Mixer Type and Manufacturer	Capacity
Twin - Top Oiled	200 bbls (2*100 bbls)
Twin - Top Oiled	150 bbls (2*75 bbls)
Twin - Top Oiled	150 bbls (2*75 bbls)
Twin - SJS	100 bbls (2*50 bbls)

## SURGE TANK



### DESCRIPTION

The surge tank is a vertical vessel designed to provide uniform cement flow for slurry mixing during cementing operation. This equipment is a main part of preparing a homogenous slurry while fly cementing operation. Mehran Cementing department provides eight set of this essential equipment.

#### Surge Tank Specification

Capacity	70 cubic feet
Working Pressure	6- 9 psi
Control Pressure	10- 25 psi

## CEMENT HEAD AND CIRCULATION SWAGE



### DESCRIPTION

Cementing department is fully equipped with different sizes of cement heads and circulation swages to support all types of cementing operation. We also have different types of cross over designed for varies types of casing threads.

Cement Head	Quantity	THD Type	Maximum Working Pressure (psi)
Single 18 5/8 Inch	5	BTC	2000
Double 18 5/8 Inch	1	BTC	2000
Single 13 3/8 Inch	2	BTC	5000
Double 13 3/8 Inch	5	BTC	5000
Double 10 3/4 Inch	3	BTC	5000
Double 10 3/4 Inch	3	Vam Top	5000
Single 9 5/8 Inch	3	Vam Top	5000
Double 9 5/8 Inch	1	Vam Top	5000
Double 9 5/8 Inch	1	BTC	5000

Casing Circulation Swage - Size	Quantity	THD Type	Connection Type
20 Inch	1	BTC	2 Inch Fig. 1502 Weco
20 Inch	1	Antares	2 Inch Fig. 1502 Weco
18 5/8 Inch	5	BTC	2 Inch Fig. 1502 Weco
13 3/8 Inch	7	BTC	2 Inch Fig. 1502 Weco
10 3/4 Inch	5	Vam Top	2 Inch Fig. 1502 Weco
10 3/4 Inch	1	BTC	2 Inch Fig. 1502 Weco
9 5/8 Inch	2	Vam	2 Inch Fig. 1502 Weco
9 5/8 Inch	2	Vam Top	2 Inch Fig. 1502 Weco

## BULK PLANT SYSTEM



### DESCRIPTION

We organized bulk plant system for our yards in Kish Island and Ahvaz to support offshore and onshore cementing operation, respectively. The overall capacity of these two system is 750 MT and this value can extend depends on the forthcoming cementing operation.

Kish Yard - Bulk Plant System	Quantity	Specification
Silo	4	35 MT
Cutting Bottle	1	10 MT
Dust Collector System	1	-
Air Comperssor	1	400 CFM
Cement Bunker	1	30 MT
Lift Truck	1	7 MT
<b>Overall Operation Capability</b>	<b>140 MT/Day</b>	

Ahvaz Yard - Bulk Plant System	Quantity	Specification
Silo	1	90 MT
Silo	3	75 MT
Silo	3	50 MT
Silo	4	35 MT
Air Comperssor	2	600 CFM
Cement Bunker	1	30 MT
Lift Truck	1	5 MT
<b>Overall Operation Capability</b>	<b>605 MT/Day</b>	

## SOLUTION STORAGE TANK



### DESCRIPTION

Mehran cementing department provides wide ranges of solution tanks to assist long wells cementing operation in onshore which requires huge amount of lead and tail cement solution. All the solution tanks equipped with centrifugal pumps to circulate the solution to prevent sedimentation of additives and provide homogenized cement solution.

Solution Storage Tank	Capacity
Horizontal Cylinder Tank	400 bbls
Cuboid Tank	380 bbls
Horizontal Cylinder Tank	200 bbls

## RTTS PACKAGE



### DESCRIPTION

Mehran RTTS packers are full-opening packer used for testing, treating, and squeeze-cementing operation. In most cases the packer runs with a circulating valve and a safety joint.

The packer body includes a J-slot mechanism, mechanical slips, packer elements and hydraulic slips. Large heavy-duty slips in the hydraulic hold-down mechanism help prevent the tool from being pumped up the hole.

7 Inch RTTS Package	Specification
29- 35 lb Packer	4 1/2 Inch IF THD
Circulating Valve	4 1/2 Inch IF THD
Safety Joint	4 1/2 Inch IF THD

## CEMENTING LABORATORY APARATUS



### DESCRIPTION

Mehran cementing services provides two branch of fully equipped cementing laboratory in Kish Island and Ahvaz to support offshore and onshore operations. As most of cementing laboratory tests perform in high pressure high temperature condition, the equipment provided from pioneer manufacturer to achieve high level of safety and accuracy. MEHRAN cementing laboratory has been selected as reference standard laboratory by Kerman Cement Industries Group Inc. for carrying out API tests, witnessed and approved by SGS Certification Company, on its products.

Kish Island Laboratory - Equipment	Brand - Model	Specification
Ultrasonic Cement Analyzer (UCA)	Chandler - 4265	Max. Pressure: 20000 psi Max. Temperature: 400 F
Single Pressurized Consistometer	Chandler - 7222	Max. Pressure: 22000 psi Max. Temperature: 400 F
Atmospheric Consistometer	Chandler - 1200	Max. Temperature: 200 F
Constant Speed Mixer	Chandler - 3060	Max. Speed: 20000 RPM
Mechanical Compressive Strength	Chandler - 4207	-
Direct Indicating Viscometer	Chandler - 3500	12 different speed
Filter Press	Fan - 387	-
Density Measurement	Fan - 140	Atmospheric
Water Bath	Memmert - WNB 14	Max. Temperature: 200 F Max. Capacity : 14 L
Water Bath	Memmert - WNB 45	Max. Temperature: 200 F Max. Capacity : 45 L
Water and Oil Bath with Circulating Impeller	Memmert - WPE 45	Water Bath Max. Temperature: 200 F Oil Bath Max. Temperature: 400 F Max. Capacity : 45 L
Balance	GF6000	-
Balance	GF200	-

Ahvaz Laboratory - Equipment	Brand - Model	Specification
Ultrasonic Cement Analyzer (UCA)	OFITE - 120.51	Max. Pressure: 20000 psi Max. Temperature: 400 F
Double Pressurized Consistometer	Chandler - 7025	Max. Pressure: 25000 psi Max. Temperature: 400 F
Atmospheric Consistometer	CTE - 200	Max. Temperature: 200 F
Constant Speed Mixer	CTE - 7000	Max. Speed: 20000 RPM
Direct Indicating Viscometer	Chandler - 3500	12 different speed
Density Measurement	Fan - 140	Atmospheric
Balance	GF6000	-
Balance	GF200	-

## MEHRAN OPERATION YARDS

### DESCRIPTION

Mehran Co. has eleven yards in various places to support offshore and onshore operations which ten of them are permanent (eight in Kish Island (15000 M3), one in Ahwaz City (17000 m3), one in Aftab Port (1000 m3)) and one of them is temporary assigned for South Azadegan project.



## CEMENTING REFERENCES



**THANK YOU  
FOR THE  
BUSINESS**



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