







PIONEER
READY MIX
بايونير
للخرسانة

TOGETHER WE BUILD THE FUTURE









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We imagine
We experiment and prototype
We test, refine, and then
We produce.

"Bridging Hope and Possibility through Commitment"

At Pioneer Ready Mix, we believe in the power of commitment—the unwavering dedication that propels us beyond limits, enabling extraordinary achievements. Picture a company dedicated not just to its goals but to yours. Envision a skilled community of leading engineers, always at your service, providing personalized care for your projects.

Since our inception in 1996, Pioneer Ready Mix has embodied this commitment. Our team, a collective of seasoned professionals, collaborates seamlessly to transform your visions into reality.

Join us on this journey where commitment becomes the bridge between hope and possibility, and where the exceptional is not just a goal but a standard we consistently achieve.

Mission & Vision

Mission Statement: Building Excellence, Shaping Legacies
At Pioneer Ready Mix, our mission is clear—to stand among the UAE's premier producers and suppliers of ready-mix concrete. We achieve this by delivering extraordinary results for our customers, fostering fulfilling careers for our people, and ensuring a fair return on the value we provide. Our commitment is unwavering, rooted in the consistent values of safety, quality, and sustainability.

Guiding Principles for a Sustainable Future
As we shift gears towards a socially inclusive and climate-friendly approach, we actively contribute to our Vision, Values & Covenants. Our aim is to be nature-positive and to cultivate a legacy of which we can be proud.

- Social Inclusivity: Embracing diversity and contributing to the well-being of individuals, families, and communities.
- Climate Friendliness: Adopting eco-friendly practices to safeguard our planet for future generations.
- Active Contribution: Ensuring that every action aligns with our Vision, Values & Covenants to nurture a legacy of excellence.

Our Approach: Plan with Ingenuity, Produce with Integrity, Manage with Assurance
At Pioneer Ready Mix, ingenuity drives our planning, integrity shapes our production, and assurance guides our management. These principles are the bedrock of our operations, ensuring that each activity aligns seamlessly with our core values.

Values that Drive Us
We are driven by values—more than just words on paper, they are the metric, the guideline, the essence that shapes our daily activities. We bring our best to the organization every day, as our values serve as a commitment to excellence.

Concrete Production and Supply: More Than a Job, It's a Lifestyle
For us, quality concrete production and supply transcend the realm of a job; it's a lifestyle. Each batch we deliver reflects our unwavering commitment to excellence, safety, and sustainability.







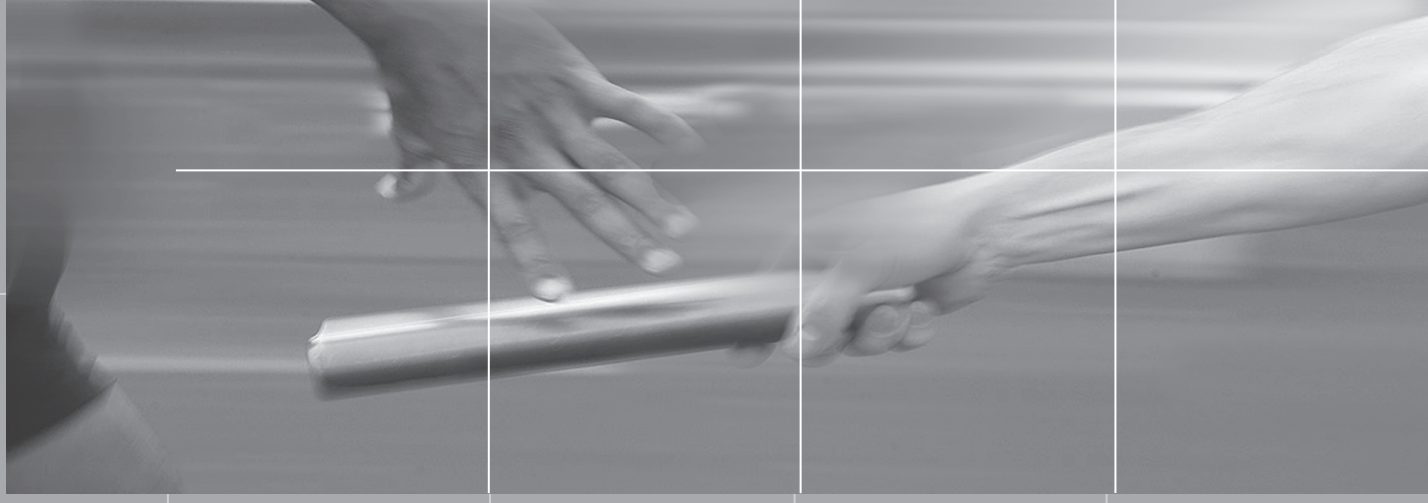












Pioneer Ready Mix
"On the High Road, Always"

At Pioneer Ready Mix, we take pride in narrating the story of our journey to becoming a leader in the concrete industry. Upholding a legacy of honesty and the highest ethical standards, we have forged enduring partnerships with our business associates. Our reputation as a concrete supplier is not just about tangible assets; it's grounded in our unwavering integrity—a quality that continues to make Pioneer Ready Mix the preferred choice for clients and industry partners.

Cultivating Trust, Building Relationships

We are committed to establishing positive, long-term relationships with our customers, joint-venture partners, subcontractors, suppliers, and colleagues. These relationships are built on the pillars of trust, respect, and collaboration, forming the foundation of our success.

Collaborative Excellence

By harnessing the collective talents of many, we strive to answer the fundamental question: How do we transform dreams into reality? Our approach is centered on curiosity, a willingness to seek, share, and build upon experiences. Working collaboratively, we unlock our full potential, achieving exceptional results for our customers and shareholders.

Trailblazers for Excellence

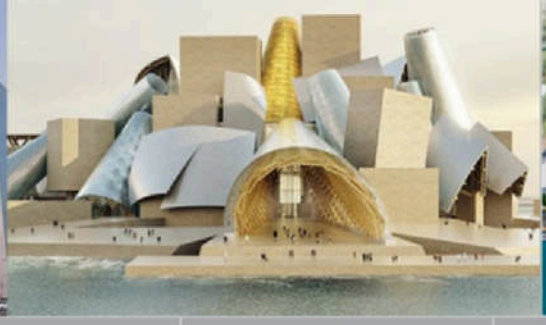
Pioneer Ready Mix is more than a company; we are a community of trailblazers dedicated to building great projects, fostering great teams, nurturing great relationships, and delivering great value. Our journey is a testament to our commitment to excellence in every aspect of what we do.

Sd/-

Engr. Salah Sulaiman Aldali

CEO






Pioneering Concrete Solutions



About Pioneer Ready Mix Manufacturing - Sole Proprietorship LLC

is a fully locally owned company established in1996, situated in the emirate of Abu Dhabi, UAE. In a remarkably short period, We have earned recognition as one of the premier producers and suppliers of high-quality ready-mix concrete in the Emirate.



Certifications and Commitments

Pioneer Ready Mix achieved the ISO 9001:2015 certification for its Quality Management System from TUV Nord, a globally renowned certification body. Demonstrating our commitment to excellence, we have declared our Occupational Health, Safety, and Environment Policy and obtained OSHAD certification, aligning with ISO 14001:2015 and OHSAS 18001:2007 Management Syatems.

We proudly hold membership in esteemed organizations such as the American Concrete Institute(ACI) and the British Standards Institution (BSI),



Expansion for Excellence

As part of our expansion and development program, we have established branches at Mussafah 35, Khalifa City, Ruwais (H&G) KEZAD, AL Mina, AL Bahiya, Hudayriat, Saadiyat and Ramhan Island. These strategic locations enable us to efficiently produce and supply ready-mix concrete to the suburbs of Abu Dhabi.



State-of-the-Art Facilities

Operating a total of 20 state-of-the-art concrete batching plants across diffrent parts of the emirate of Abu Dhabi, we cater to the concrete requirements of our customers in both urban centers and suburbs.



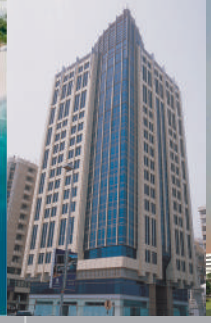
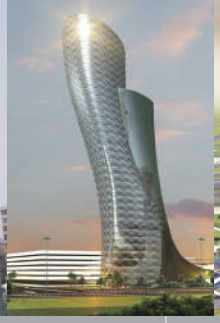

Strategic Business Planning

Pioneer Ready Mix has aligned its Business Strategy ahd Goals with the Company's Mission and Vission for a specified period. We are dedicated to upholding the United Arab Emirates Labour Regulations and prooritizing Health, Safety, and Environmental protextion for our employees and community.









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“Empowering Dreams, Standing the Test of Time”

At Pioneer Ready Mix, we understand that dreams become reality through the dedication of people—individuals who envision a future that withstands the test of time. United by a common purpose, we proudly declare:

“Together we Build the Future.”

Customer-Centric Approach

Recognizing that customer satisfaction is paramount, Pioneer Ready Mix consistently focuses on meeting and exceeding customer needs, even in the most challenging situations. Our sales and technical departments are committed to providing exceptional service, a commitment reflected in our continued success and the approval of our products and services through the awarding of new projects with existing customers.

Chief Executive Officer

Engr. Salah Sulaiman Aldali






Occupational Safety & Health (OSH) Policy

Pioneer Ready Mix is dedicated to providing a secure and healthy working environment for all employees, contractors, stakeholders, and the general public involved in our activities.

In pursuit of this commitment, PRM actively works towards:

1. Zero Accidents and Harm:

- Identify hazards and assess risks to eliminate accidents, incidents, and occupational harm.

2. Compliance:

- Adhere to applicable OSH laws and regulations relevant to our country of operation.

3. Leadership Accountability:

- Ensure that all senior management holds prime responsibility for health and safety, demonstrating this commitment through their actions.

4. Employee Cooperation:

- Foster a culture where all employees actively cooperate with safety functions, adhere to health and safety rules, and take necessary steps to safeguard their own and others' health, safety, and well-being.

5. Open Communication:

- Promote safety dialogues and toolbox talks, facilitating proactive communication strategies.

6. Reporting and Improvement:

- Encourage the reporting of unsafe acts and conditions, taking necessary actions to improve performance.

7. Resource and Training:

- Provide adequate resources and training to ensure work is carried out safely and professionally.

8. Incident Investigation:

- Thoroughly investigate all events involving injuries, property damage, and near misses, taking corrective actions and preventing recurrence.

9. Communication of Findings:

- Communicate conclusions and recommendations in a timely manner to prevent similar events.

Collective Responsibility: All individuals within the company are obligated to fully adhere to these principles. By doing so, we establish a working culture that consistently seeks to improve OSH performance, creating an environment where harm is minimized to a level that is as low as reasonably practical.

Policy Review: This policy is subject to periodic review to ensure its continued relevance and effectiveness.

SALAH S.T. ALDALY
Chief Executive Officer

Date: 1/06/2024

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Quality Policy

Pioneer Ready Mix : Committed to Excellence in Ready-Mix Concrete

Vision: To be a regional leader and trendsetter in the ready-mix concrete industry.

Mission: Actively contribute to the socio-economic development of the United Arab Emirates by providing the construction industry with high-quality ready-mix concrete in a timely and mutually beneficial manner, adhering to international standards and local regulatory requirements.

PRM Management Commitment:

• Customer-Centric Approach:

Thoroughly understand and meet customer requirements.

• Quality Management System:

Adopt the ISO 9001:2015 Standard to operate the business effectively.

• Principles for Operational Excellence:

Embrace customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision-making, and relationship management principles for continuous enhancement.

• Risk-Based Management:

Implement a risk-based management system to consistently meet business and customer requirements.

• Strategic Planning:

Execute strategic plans to manage internal and external issues effectively.

• Employee Competence:

Enhance employee competence through effective training.

• International Standards:

Manufacture concrete according to internationally/ nationally accepted standards such as BS, ACI, ASTM, and local municipality guidelines.

• Technological Precision:

Utilize state-of-the-art technology and computerized batching plants with high-precision scales for concrete production.

• Equipment Suitability:

Ensure the suitability of equipment used in operations.

• Continuous Improvement:

Establish measurable objectives and continually improve the effectiveness of the quality management system.

• Resource Allocation:

Provide appropriate resources to employees to deliver quality products.

• Employee Commitment:

Ensure employees are committed to implementing the management system effectively.

• Regulatory Compliance:

Comply with all applicable regulatory and other requirements.

• Policy Review:

Periodically review the Quality Policy to ensure its relevance and appropriateness.

• Continuous Improvement Commitment:

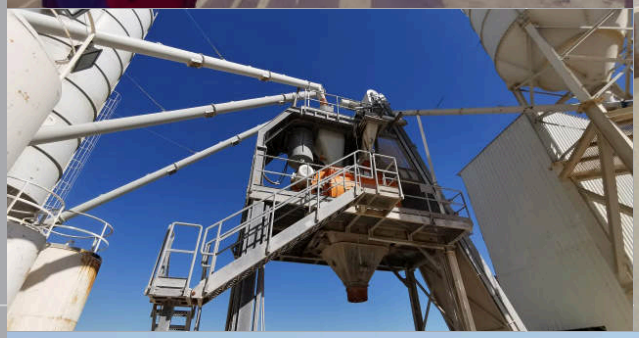
Continually improve the effectiveness of the management system in alignment with the ISO 9001:2015 Standard, with the policy reviewed periodically.

SALAH S.T. ALDALY
Chief Executive Officer

Date: 3/01/2024









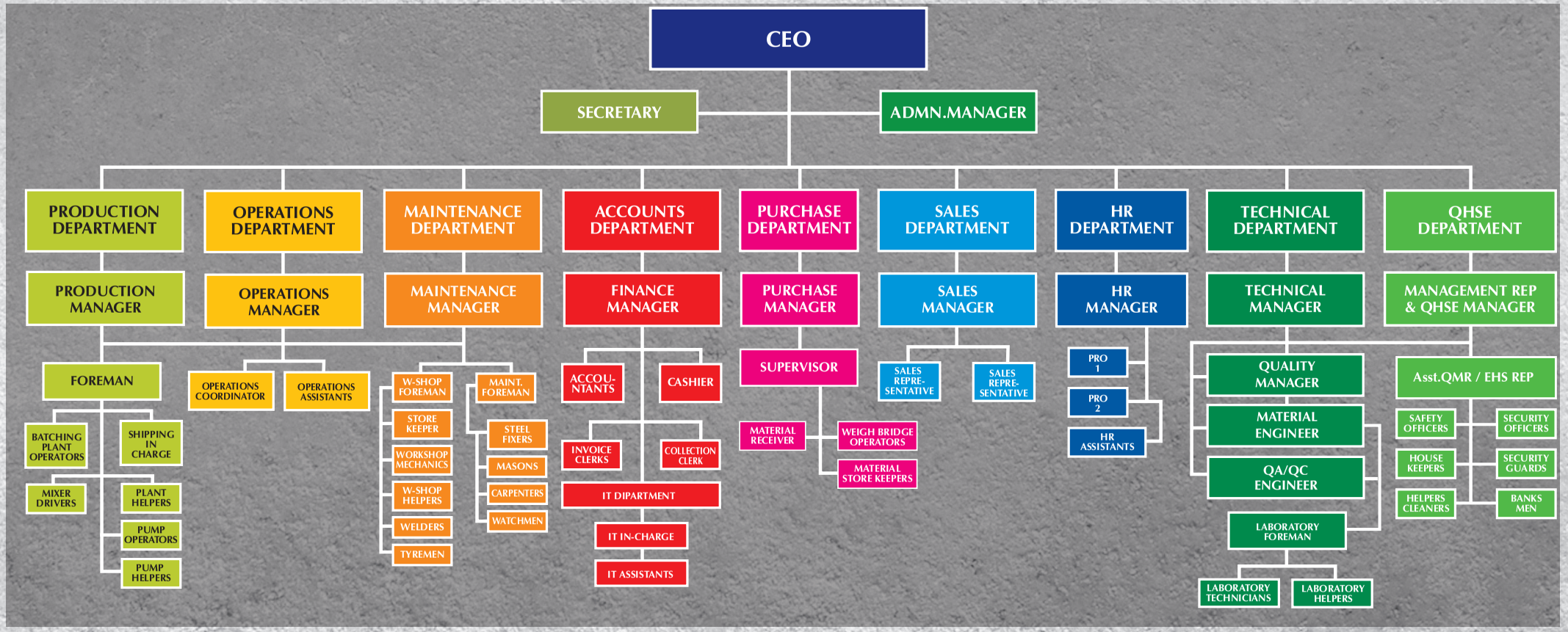
"United Strength, Collective Power"

At Pioneer Ready Mix, we believe in the synergy of our team. The strength of each individual member fortifies the collective power of the entire team.



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Organization chart





Administration

For seamless operations and administrative control, various departments are headed by Department Managers. The primary departments include:

Operations Department

Manager: The Operations Manager plays a pivotal role in controlling and overseeing the entire operations timeline at Pioneer Ready Mix. From the initial input to the final finished stage, the manager is dedicated to achieving objectives, enhancing productivity, and maximizing profitability. With a keen focus on efficiency and strategic planning, they ensure seamless coordination across all operational facets, creating a foundation for success and sustained growth.

Technical Department

• Head: Technical Manager and Quality Controller, overseeing all technical and quality matters.

• Support Team: Material Engineer, QC Engineer, Laboratory Foreman, Technicians, Material Receiving Clerk, and Helpers.

Production Department

• Manager: Manages the daily supply schedule, monitors allocation of mixer fleets and concrete pumps, liaises with the Sales Department.

• Support Team: Shipping In-Charge, Plant Operators, Foreman.

Sales Department

• Manager: Technical Sales Manager, responsible for liaising with the Production Department, conducting client meetings, and finalizing deals.

• Team: Sales Representatives.







Maintenance Department

- Senior Manager: Oversees Workshop, Garage, Batching Plants, and Store maintenance.
- Support Teams: Senior Mechanical Engineer, Mechanics, Electricians, Welders, Tyremen, Denters, Plant Maintenance Foreman, Storekeepers, Industrial Electricians.

Information Technology Department

- Head: IT Administrator, responsible for controlling IT assets, email management, internet usage, ERP control, software licenses, backups, antivirus updates, telephone and mobile service, and equipment maintenance.
- Team: IT Technicians.

IT Facilities:

- ERP: Enterprise Resource Planning System for overall control and monitoring.
- Fleet Management System: Real-time tracking of vehicles.
- In-house and External Communication System: Managing mail facilities.
- CCTV Monitoring System: Ensuring security and surveillance.
- To support day-to-day administration and control, Pioneer Ready Mix has integrated the latest information technology facilities, including ERP, Fleet Management System, In-house and External Communication System, and CCTV Monitoring System.

Accounts Department

- Manager: Finance Manager, overseeing general accounts, yearly audit, and related matters.
- Invoice Section: Handling supply details, preparing invoices, credit notes, debit notes, and customer credit control.

Quality Management System

The Quality Management System at Pioneer Ready Mix is under the direct control of the Q.M. Representative, who operates closely with top management. Corrective and preventive measures for any non-conformance are systematically addressed as outlined in the ISO Manual. Department Heads collaborate to implement these measures, ensuring the continuous improvement of our quality management processes.

Personnel Department / HR Department

The Personnel Department, overseen by the Administration Manager, is responsible for all official matters related to employees. The HR Assistant and PROs work in tandem to support the Administration Manager in the efficient management of personnel affairs.

Health, Safety & Environment Management System

Pioneer Ready Mix is proud to uphold a fully documented and audited Health, Safety, and Environment Management System. A dedicated safety policy guides our day-to-day operations. Safety officers diligently monitor activities, promptly reporting any non-conformances to the HSE Manager. Corrective and preventive measures are implemented in accordance with directives from the Safety Manual. These actions are meticulously reviewed during management meetings and documented to ensure continuous improvement in our commitment to health, safety, and environmental standards.





Research and Development Center

Recognizing the essential requirement for a Research and Development Center and an in-house laboratory in ensuring comprehensive quality control within the ready mix industry, Pioneer Ready Mix has established a state-of-the-art facility dedicated to research and development. This facility aligns with international standards and serves as a cornerstone in achieving our declared quality policy, ultimately leading to heightened customer satisfaction.

Objectives and Functions:

- **Timely and Accurate Testing:**

The R & D Center and in-house laboratory facilitate timely, accurate, and cost-effective tests. These tests ensure that every aspect, from mix design to raw material to the batched concrete, aligns with the quality requirements specified in international standards.

- **Stringent Raw Material Testing:**

Incoming raw materials undergo rigorous testing for source, purity, measurements, and quality before being used in production. Regular and repeated testing ensures that materials meet quality requirements, accounting for factors like weather, dust winds, and ambient temperature.

- **Homogeneous Product Quality:**

Continuous testing during production phases guarantees the quality of the final product. This proactive approach accounts for variations in environmental conditions, ensuring a homogenous mix of materials.

Laboratory Sections:

The in-house laboratory and research center are organized into distinct sections:

- **Fresh Concrete Tests:**
Ensuring the quality of concrete in its fresh state.
- **Hardened Concrete Tests:**
Assessing the strength and durability of concrete post-setting.
- **Durability Tests:**
Evaluating the long-term performance and resilience of concrete.
- **NDT Testing:**
Employing Non-Destructive Testing methods for quality assessment.
- **Aggregates Physical Tests:**
Analyzing the physical characteristics of aggregates.
- **Petrographic Analysis:**
Studying the mineral composition of materials.
- **Chemical Tests:**
Conducting tests to assess the chemical properties of materials.

The Research and Development Center stands as a testament to Pioneer Ready Mix›s commitment to innovation, quality, and continuous improvement in the ready mix concrete industry.



Concrete Durability Lab

The details of the tests carried out are shown below..

To carry out the various physical and chemical tests we have provided laboratory equipments of the latest model. More than 100 numbers of equipments are made available to carry out all the required tests.



Fresh Concrete Tests-
Slump Cone Set,Digital Thermo Meter, Density Container, Bleeding Apparatus,Air Content Meter



Hardened Concrete Testing -
Compressive Strength of Cubes, Cylinders & Flexural Strength of Beams

DETAILS OF TESTS

Section - 1 Concrete

Fresh Concrete

Sampling
Temperature
Slump
Density
Air Content
Bleeding
Setting Time

Water for Concrete

Physical Test
Strength vs distilled Water Std
Time Setting vs Distilled Water Std

Cement Test

Physical Analysis of Cement
Soundness
Compressive Strength
Setting Time
Consistency

Section - 2 Hardened Concrete

Compressive Strength of Cubes
Compressive Strength of Cylinder
Flexural Strength of Cylinder
Modulus of Elasticity of Cylinder
Compressive strength of mortar cube
Flexural Strength of Beam
Compressive Strength of Core



Aggregate Test Lab

Section - 3 Durability

Water Permeability of Concrete
Water Absorption of Concrete
Initial Surface Absorption of Concrete
Porosity Test
(Rapid Chloride Permeability Test (RCPT
Chloride Migration Coefficient
Chloride Diffusion Coefficient

Section - 4 NDT Testing

Ultra Sonic Test
Cover Meter
Rebound Hammer
Crack Detection Microscope

Section - 5 Aggregates

Physical Test
Sampling
Sieve Analysis
Material Finer than 75mm
Clay Lumps & Friable Particle
Flakiness & Elongation Test
Specific Gravity & Water Absorption
Shell Content
Bulk Density
Light Weight Pieces
Impact Value
Ten Percentage Value
Crushing Value
Drying Shrinkage



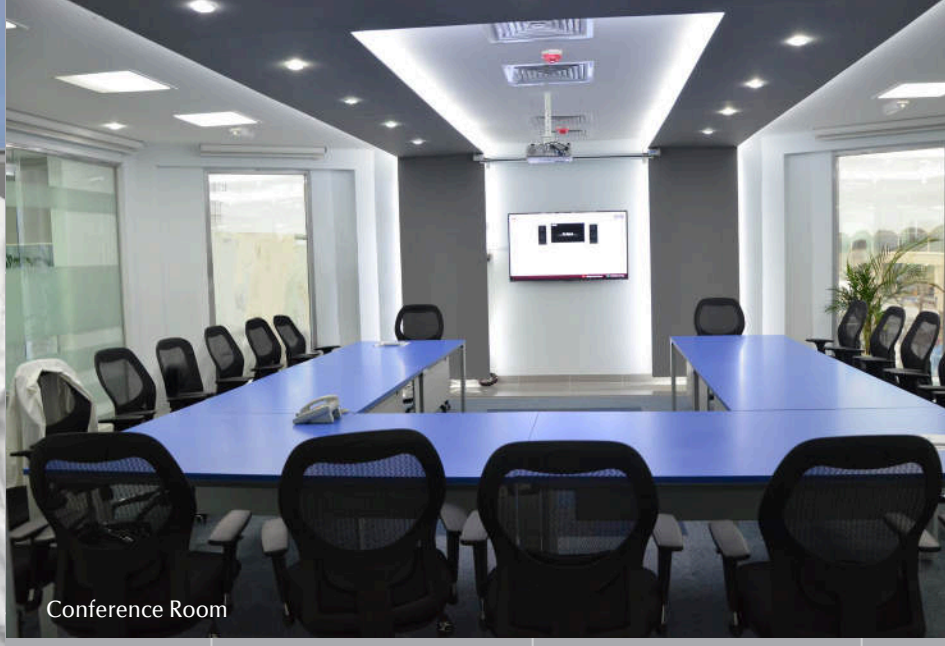
Durability Tests- RCPT & Chloride Migration



Aggregate Physical Tests



NDT Testing



Conference Room



Chemical Lab- Chemical Analysis Tests



Petro Graphic Lab - Petrographic Analysis of Concrete & Aggregates

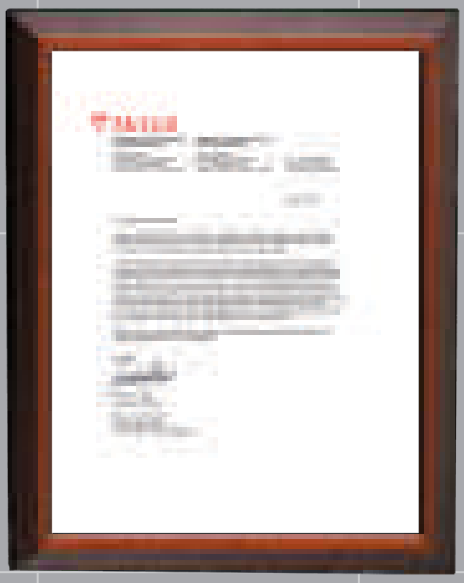
Section -6	**Petrographic Analysis**
	Petrographic Analysis of Concrete
	Petrographic Analysis of Aggregate

Section -7	**Chemical Section**
	Chemical Test - Concrete
	Chloride Content of Concrete
	Sulphate Content of Concrete
	Cement Content of Concrete
	pH Content
	Solid Content
	Chemical Test - Aggregate
	Sulphate Content
	Chloride Content
	Soundness
	Sand Equivalent
	Chemical Test - Water
	pH Content
	Total Dissolved Solids (TDS)
	Sulphate
	Chloride
	Total Alkalinity
	Carbonates & Bi carbonates
	Chemical Analysis of Cement
	Chemical Analysis of Admixture

Affiliated Universities

The excellence of our Research and Development Center has garnered recognition and appreciation from prestigious institutions:







AlHosn University - Abu DHabi

Al Hosn University in Abu Dhabi has expressed appreciation for our R&D center, recognizing its capabilities to meet international standards. The center has been deemed valuable for the educational pursuits of their students at various academic levels.

McGill University - Canada

The esteemed McGill University has acknowledged and commended our state-of-the-art facilities and procedures in the R&D center, confirming their alignment with international standards. This recognition is a testament to the fulfillment of requirements for Graduation, Post Graduation, and Research Students.

American University in the Emirates

The American University in the Emirates has acknowledged and appreciated the advanced facilities and procedures at our Research and Development Center. Their commendation highlights the center›s compliance with international standards and its contribution to the academic needs of their Graduation, Post Graduation, and Research Students.

Commitment to Education and Future Generations:

These affiliations not only validate the quality and standards of our R&D Center but also underscore our social commitment. By extending our facilities to these educational institutions, we actively contribute to the education and research endeavors of current and future generations. This collaborative effort reinforces our dedication to knowledge sharing and fostering a foundation for continuous learning. Copies of the letters received from these institutions, attached herewith, provide detailed insight into their appreciation and acknowledgment.



State of the Art Infrastructure



Plants

Pioneer Ready Mix boasts logic-controlled central wet mixing system concrete batching plants strategically located across the Emirate of Abu Dhabi. Equipped with fully computerized batching systems, our plants, featuring Pan Mixer and Twin Shaft mixer types, deliver homogeneous and high-speed mixing for superior concrete quality. The plants, including ARBAU (Germany), LIEBHERR (Germany), CIFA (Italy), and O-CUOGHI (Italy), have a combined capacity to produce over 30,000 m3/ day, ensuring efficiency and consistency.

Batch Control System

Our concrete batching plants are governed by cutting-edge Command ALKON Spectrum version 6.18, ONYMA GENYX II, and GPE software. Covering the entire spectrum of ready mix operations, from batching to dispatching and mix design maintenance, these systems ensure precision and reliability.

Transportation Vehicles (Transit Mixers)

With a fleet of 201 modern Transit Mixers featuring drum capacities of 7m3 to 12m3, Pioneer Ready Mix ensures efficient transportation. The mixers are designed for Middle East climatic conditions, equipped with reflective paint to control concrete temperature rise during transit.



Concrete Pumps

Our fleet includes 31 high-performance SCHWING truck-mounted concrete pumps, ranging from 34mtr to 55mtr boom lengths, with pumping capacities from 90m3/hr to 163m3/hr. Additionally, 12 SCHWING stationary pumps cater to high-rise projects, delivering concrete up to 640 meters in height.

Placing Booms

For precise concrete placement on high-rise towers, Pioneer Ready Mix deploys 18 placing booms, customizable according to project requirements.

Ice Flake Machines

Controlling concrete temperature is critical, and Pioneer Ready Mix utilizes 10 Ice Flake Machines by KTI-Germany, producing 600 tons of flake ice per day and storing up to 500 tons in refrigerated compartments.

Water Chillers

To maintain optimal concrete temperature, 10 Water Chiller Plants by KTI-Germany produce 2000m3/day at 1° C.

Water Tanks

Across various sites, Pioneer Ready Mix has installed 20 massive water tanks with a total storage capacity of 1,800,000 gallons.













Generators

18 generators, ranging from 350 to 725 KVA and from reputable brands like CATERPILLAR, MARAPCO, and PERKINS, ensure uninterrupted power supply at the plants.

Cement Bulkers

To streamline cement transportation, Pioneer Ready Mix utilizes 15 cement bulkers, each capable of transporting 50 tons per trip. These bulkers facilitate direct pumping of cement into airtight silos, preserving its quality and environmental integrity.

Trailers

Pioneer Ready Mix boasts a dedicated fleet of 80 trailers, exclusively comprised of Mercedes Benz units. These trailers play a pivotal role in transporting aggregates from various sources, ensuring a seamless supply chain.



Water Tankers

With a commitment to operational self-sufficiency, Pioneer Ready Mix operates 12 water tankers daily. These tankers facilitate the transportation of potable water from ADWEA distribution centers to plant sites, with a remarkable total capacity of 70,000 gallons per trip.

Diesel Tanker

Ensuring uninterrupted operations, Pioneer Ready Mix owns an ADNOC-approved diesel tanker. This tanker is instrumental in supplying diesel to both plant and work sites. Adequate diesel stock is maintained at all sites, guaranteeing continuous operation of vehicles and machinery around the clock.

Shovels

To facilitate the loading of aggregates and support cleaning operations, Pioneer Ready Mix has equipped different plant sites with 25 shovels. These shovels, sourced from reputable manufacturers such as KOBELCO, KOMATSU, KAWASAKI, and CATERPILLAR, contribute to efficient material handling and site maintenance.

This comprehensive fleet of trailers, tankers, and equipment underscores Pioneer Ready Mix's commitment to self-sufficiency, operational efficiency, and maintaining a high standard of equipment quality.





Workshop Capability

Pioneer Ready Mix takes pride in its fully-equipped workshop, designed to handle a wide array of repair and maintenance tasks related to the production and supply of ready mix concrete. With a dedicated workforce of 120 experienced employees spanning various technical levels, the workshop, led by the Senior Maintenance Manager, ensures seamless daily maintenance and prompt response to emergency activities. A well-stocked inventory of urgently required spare parts and accessories is maintained at the workshop store to efficiently address any emergent situations.

Key Features:

1. Expert Workforce:
A team of 120 skilled employees, including Mechanical Engineers and Foremen, capable of handling diverse maintenance tasks.

2. Emergency Response:
The workshop is equipped to handle emergency repair situations promptly.

3. Spare Parts Inventory:
Sufficient stock of spare parts and accessories is maintained to address urgent repair needs.

4. Scheduled Maintenance:
All plants, equipment, mixers, and pumps undergo periodic checks and maintenance as per recorded and audited schedules.

5. Mobile Repair/Service Unit:
A fully equipped mobile repair/service unit is available for on-the-go repair and breakdown assistance. This unit can move from plant to plant with a maintenance team and necessary equipment, ensuring a quick response to issues.







General Maintenance and Repairs:

Plant: a) Mechanical, electrical, and pneumatic repairs of batching plants. b) Repairs and maintenance of belt conveyors, screw conveyors, and air compressors. c) Mechanical, electrical, and pneumatic repairs of ice plants and chillers. d) Maintenance and repairs of all motors and water pumps.

This comprehensive workshop capability underscores Pioneer Ready Mix's commitment to maintaining the highest standards of operational efficiency, safety, and reliability in the production and supply of ready mix concrete.

Transit Mixers and Concrete Pumps

a) Periodical Servicing:
Regular and scheduled servicing to maintain the optimal functionality of transit mixers and concrete pumps.

b) Repair and Overhauling of Engines:
In-depth repair and overhauling of engines to enhance performance and extend the lifespan of the equipment.

c) Repair and Overhauling of Transmission System:
Thorough inspection, repair, and overhaul of the transmission system for smooth and reliable operation.

d) Repair and Overhauling of Hydraulic Control System:
Specialized attention to the hydraulic control system, ensuring its proper functioning through repair and overhauling.

e) Repair and Overhauling of Pumping Mechanism:
Comprehensive repair and overhaul of the pumping mechanism to maintain its efficiency and effectiveness.

f) Denting Works:
Addressing any structural damages or dents through professional denting works to ensure the integrity of the transit mixers and concrete pumps.

g) Painting Works:
Cosmetic maintenance through painting works to protect against corrosion, improve aesthetics, and maintain a professional appearance.

These maintenance practices are conducted with precision by our experienced workforce, led by the Senior Maintenance Manager and supported by skilled Mechanical Engineers and Foremen. Pioneer Ready Mix is committed to upholding the highest standards in the operation and maintenance of transit mixers and concrete pumps to deliver quality service to our customers.



Quality Control Plan - Pioneer Ready Mix

Responsibility: The Quality Control Engineer, in collaboration with the QC Department, is entrusted with the responsibility to enforce and maintain the systems and practices outlined in the Quality Control Plan. This comprehensive plan is designed to uphold the highest standards in the production and supply of ready mix concrete.

Objective: The primary objective of the Quality Control Plan is to ensure and maintain an acceptable standard for the quality of raw materials, products, and the entire production and supply process of ready mix concrete.

Implementation: To achieve this objective, Pioneer Ready Mix adopts the latest in-site sampling methods to identify homogeneous and consistent sources of raw materials. Qualified and experienced professionals are employed to meticulously select the highest quality raw materials from available sources.

Procedures:

1. Raw Material Inspection:
Rigorous inspection of raw materials to ensure they meet established quality standards.

2. Professional Selection:
Qualified professionals are engaged to select the highest quality raw materials from available sources.

3. Homogeneous Source Identification:
Utilization of advanced in-site sampling methods to identify homogeneous and consistent sources of raw materials.

4. Nonconformance Reporting:
Any nonconformance identified during the quality control process is promptly reported to the Quality Management Department.

Continuous Improvement: Pioneer Ready Mix is committed to a culture of continuous improvement in quality control. The Quality Control Engineer, along with the QC Department, actively seeks opportunities to enhance and refine processes, ensuring the delivery of top-tier ready mix concrete to customers.

Corrective/Preventive Measures: In the event of any nonconformance, the Quality Management Department is informed promptly. Appropriate corrective and preventive measures are then implemented to address identified issues and prevent their recurrence in future production cycles.

Pioneer Ready Mix stands dedicated to maintaining the highest standards of quality throughout the production and supply chain, contributing to the overall success and satisfaction of our customers.







Procurement of Raw Materials and Storage

A. Identification of Sources:

• Raw materials, including aggregates, cement, extenders, additives, and admixtures, are procured under a high standard quality plan.

• Emphasis on sourcing high-quality raw materials at an economical price.

B. Quality Testing:

• Rigorous testing of raw materials according to international standards (BS & ASTM) is conducted by approved independent testing agencies.

• Approval of the source is granted if test results comply with standards.

C. Approval and Order Placement:

• Terms and conditions are finalized before placing a purchase order.

• Purchase orders are issued upon approval of the source.

D. Receiving Procedures:

• A qualified technician oversees the control of raw material reception using the following procedures:

• Verification of delivery notes for material type, source, and quantity.

• Inspection of aggregates in trucks for cleanliness, size, color, and contamination.

• Clear identification of admixture delivery drums.

• Verification of cement or cement extenders delivery notes and certificates for source and quantity.



E. Stocking of Raw Materials:

1. Aggregates:

Highest quality aggregates are stockpiled in green mesh-shaded bins.

Each bin is separated by 3.5 meters high inter-portion concrete precast walls to prevent intermixing and cross-contamination.

Up to eight storage bins with capacities ranging from 1500 m3 to 2500 m3.

Thick sloped concrete flooring to avoid segregation.

Stockpiles built up in horizontal layers.

2. Cements & Cement Extenders:

- Quick-discharged air-bed silos with white-painted exteriors for lump-free cement flow.
- Individual silos for different types of cement and extenders to prevent chemical contamination.
- Dust filters installed on top for a zero-dust environment in line with environmental protection considerations.

3. Chemical Admixtures:

- Stored in bulk shaded liquid tanks with a white color to reduce heat absorption.
- On-line circulation system to prevent settlement.

4. Water:

- Potable water supplied by ADWEA is stored in large insulated tanks.
- Tanks are painted white to reflect heat and maintain cooler water.
- Underground tanks are constructed for additional water storage.

Pioneer Ready Mix›s meticulous approach to sourcing and storage ensures the highest quality of raw materials, aligning with environmental and quality standards.



Quality Control Tests

A periodical testing pattern is being followed as per the scheduled table shown below to check the complying of raw materials with the specification.

Pioneer Ready Mix REASERCH AND DEVELOPMENT CENTER ABU DHABI

SCHEDULE OF TESTS & FREQUENCY FOR QUALITY CONTROL OF READYMIX CONCRETE

Sl. NO	Test Description	Test Method	R & D Center Laboratory		Responsible Person	ITL Testing
			Test Freq.	Remarks		
1	AGGREGATES/DUNE SAND					
	Preliminary Inspection					
	Visual Inspection of Sample	Visual	Each Load		Material Engineer/ Receiver	Not Applicable
	Silt Clay & Dust Content		Each Load	As requested by ME/MR		
	Laboratory Testing					
	Determination of Moisture Content	BS 812 : 109	Daily	Twice for each type	Lab Supervisor	Full set tests for each type in 6 Months or changing of supplier
	Sieve Analysis	BS 812:103.1	Weekly	Twice for each type		
	Dust Content (Material Finer than ٧٤μm)					
	Water Absorption & Relative Density	BS 812 Part 2	Twice weekly	For Each Type		
	Bulk Density					
	Flakiness	BS 812:103:105	Weekly	For Each Type		
	Elongation					
	Shell Content	BS 812:103:105	Weekly	For Each Type	Lab Supervisor	
	Clay Lumps & Friable Particles	ASTM C 142	Twice weekly			
	Sand Equivalent Test	ASTM D 2419	Twice weekly			
	Aggregate Crushing Value	BS 812:Part 110	Weekly			
	Ten Percent Fine Value	BS 812:Part 111	Weekly			
	Agg. Impact Value	BS 812:Part 112	Weekly			
	Light Weight Pieces	ASTM C-123	Twice weekly			
	Chloride Content	BS 812: 117	Weekly			
	Sulphate Content	BS 812: 118	Weekly			
	Soundness Test	BS 812: 121/ASTM C 88	Twice Monthly			
	Drying Shrinkage	BS 812 Part 120	Twice Monthly			
2	WATER FOR CONCRETE					
	Sampling of Water / Preliminary Inspection	Visual Inspection	Each Load	Each Load	By Material Engineer or by Material Receiver	Not Applicable
	Laboratory Testing					
	PH Value	BS 3148/ASTM C 94	Weekly	Other wise Each 10000 Gallon or when changes in the source	Chemical Engineer	Full set tests for each type in 6 Months or changing of supplier
	Chloride Content as Cl^-					
	Sulphate Content as SO^-					
	Dissolved Solids					
	Suspended Solids					
3	ADMIXTURE					
	Sampling of Cement / Visual Inspection	Visual Inspection	Each Load	Each Load	Material Engineer	Not Applicable
	Laboratory Testing (Physical & Chemical)					
	Solid Content	BS / BS EN / ASTM	Twice Monthly	For Each Type	Chemical Engineer	Every ٦ Months
	Specific Gravity	BS / BS EN / ASTM	Twice Monthly			
	Ph Value	BS / BS EN / ASTM	Twice Monthly			
4	CEMENT					
	Sampling of Cement / Visual Inspection	Visual Inspection	Each Load	Each Load	Material Engineer	Not Applicable
	Laboratory Testing					
	Physical Test- (Comp.Stregth, Consistency, Blaine Test, Soundness, Sieve)	BS / BS EN / ASTM	Twice Monthly	For Each Type	Lab Supervisor	Every ٦ Months
	Chemical Analysis -(SiO_2, FeO_2, CaO, MgO, SO_3, IR, LOI, Lime)	BS / BS EN / ASTM	Twice Monthly		Chemical Engineer	
5	CONCRETE					
	FRESH CONCRETE					
	lab Trial Mixes (Full tests of Fresh Concrete)	BS 5328/BS 1881 P.125	Twice per week	For Any New Material & New Mixes	Lab Supervisor	Not Applicable
	Site Supply Quality Control					
	Temperature	ASTM C 1064	Every Car	At Site	Site Technician	As per site requirement (Part of contractor quality control)
	Determination of Slump	ASTM C143/BS 1881 P.102	Random Load of Supply	Visual Test @ Plant for all cars/ Testing @ site	Check Point Tech/ Site Technician	
	Preparation of Cubes for quality control	ASTM C Part 108/116	Daily	Lab Sample	Site Technician/ Lab Supervisor	
	Density of Fresh Concrete	ASTM C138/BS 1881:P 107	Daily	Site /Lab		
	Bleeding	ASTM C 232	For Each 500 M3 or as per site specification	As requested by contractor		
	Air Content	ASTM C 231				
	Setting Time	ASTM C 403				
6	HARDENED CONCRETE					
	For Lab Trials					
	Compressive strength of concrete cube	ASTM/BS	One Set per Trial	The tests other than strength of cubes as per site specs	Lab Supervisor	As per quality control requirement for conformity of tests
	Water impermeability	DIN 1048 P 5		3 Samples Each (Migration tests shall be performed as per site specification ,for applicable mixes)		
	Water Absorption	BS 1881 Part 122				
	Rapid chloride Penetration	ASTM C 1202				
	Chloride migration Test	NT Build 492				
	Porosity Test	Rilem 11.3				
	Initial Surface Absorption Test	BS 1881 Part 208				
	Sulphate content	BS 1881 Part 124	One sample per Trial	1 Sample		
	Chloride content					
	Site Supply Quality Control					
	Water impermeability	DIN 1048 P 5/BS EN 12390/8	One set for durable concrete of each 500M^3 or Monthly	3 Samples Each (Migration tests shall be performed as per site specification ,for applicable mixes)	Lab Supervisor	As per site requirement (Part of contractor quality control)
	Water Absorption	BS 1881 Part 122				
	Rapid chloride Penetration	ASTM C 1202				
	Chloride migration Test	NT Build 492				
	Porosity Test	Rilem 11.3				
	Initial Surface Absorption Test	BS 1881 Part 208				
	Sulphate content	BS 1881 Part 124	Weekly	1 Sample		
	Chloride content					



Cementing relationship with clients

A major player in the ready mix market of the region, Pioneer Ready Mix caters to a broad range of clients both in the government and private sectors. The company is an approved supplier of concrete to the following government departments:

1. ADM (ABU DHABI MUNICIPALITY)
2. DOT (DEPARTMENT OF TRANSPORT)
3. DUPM (DEPARTMENT OF URBAN PLANNING MUNICIPALITIES)
4. MUSANADA
5. ADWEA
6. ADDC
7. TRANSCO
8. ADSSC
9. ETISALAT/DU (TELECOM)
10. ADNOC
11. PUBLIC WORKS DEPARTMENT
12. CMW (COMMAND OF MILITARY WORKS)
13. PGC (PRESIDENTIAL GUARD COMMAND)
14. CICPA
15. DEPARTMENT OF CULTURE AND TOURISM
16. MOPA (MINISTRY OF PRESIDENTIAL AFFAIRS)
17. ALDAR
18. MASDAR
19. ADCE
20. MIRAL
21. MODON
22. DEPARTMENT OF CULTURE AND TOURISM
23. EGA (EMIRATES GLOBAL ALUMINUM)
24. TIP (TAWAZUN INDUSTRIAL PARK)
25. ETIHAD RAIL COMPANY PJSC
26. ADEK (DEPARTMENT OF EDUCATION AND KNOWLEDGE)
27. ADPC (ABU DHABI PORT COMPANY)
28. ADHA (ABU DHABI HOUSING AUTHORITY)



Pioneer Ready Mix major clients among private contractors include:

1. ABU DHABI INTERNATIONAL CONTRACTING & GENERAL MAINTENANCE COMPANY LLC
2. AF CONSTRUCTION LLC
3. AGILITY ENGINEERING AND CONTRACTING CO. LLC
4. AL AHD GEN. CONTRACTING AND MAINTENANCE CO. LLC
5. AL DHABI CONTRACTING LLC
6. AL DHAFRA INTERNATIONAL PROJECTS GROUP
7. AL DHAFRA PIPE LINE AND CONTRACTING COMPANY - WLL
8. AL DIYAR GENERAL CONTRACTING COMPANY W L LC
9. AL FAL FOR CONSTRUCTION AND DEVELOPMENT LLC
10. AL GEEMI AND PARTNERS CONTRACTING COMPANY LLC
11. AL THARWANIAH BLDG CONTRACTING
12. ALI AND SONS CONTRACTING COMPANY
13. ASGC CONSTRUCTION L L C
14. ASIA PRIME GENERAL CONTRACTING CO. LLC
15. ASQALAN CONSTRUCTION AND DEVELOPMENT LLC
16. BAUER INTERNATIONAL FZE, ABU DHABI
17. CAPRIOLE CONSTRUCTION COMPANY LLC
18. CHINA CIVIL ENGINEERING CONSTRUCTION CORPORATION
19. CHINA RAILWAY CONSTRUCTION CORPORATION LIMITED
20. DAARY GENERAL CONTRACTING
21. DENHOLM YAM CONTRACTING COMPANY L.L.C.
22. DUTCH FOUNDATION CONCRETE REHABILITION COMPANY WLL
23. EASTERN INTERNATIONAL LLC
24. EMARAT ALOULA CONTRACTING CO – SOLE PROPRIETORSHIP LLC
25. EMARAT EUROPE FAST BUILDING TECHNOLOGY SYSTEMS FACTORY LLC
26. EMIRATES LINK MALTAURO COMPANY-LLC
27. FIBREX - LLC
28. HASHIM CONTRACTING & GENERAL MAINTENANCE LLC
29. HILAL BIL BADI AND PARTNERS CONTRACTING COMPANY - WLL
30. KELLER GRUNDBAU GMBH - ABU DHABI BRANCH 31. LARSEN AND TOUBRO LIMITED
31. MECHANICAL AND CIVIL ENGINEERING CONTRACORS COMPANY LLC
32. NAEL AND BIN HARMAL HYDROEXPORT NAYEL RASHED SAIF ALSHAMSI - SOLE PROPRIETORSHIP LLC
33. NATIONAL MARINE DREDGING COMPANY(NMDC) 35. NATIONAL PROJECTS & CONSTRUCTION LLC.
34. NUROL LLC
35. POWER CONSTRUCTION CORPORATION OF CHINA LTD
36. QUMRA TRANSPORT & GENERAL CONTRACTING ESTABLISHEMENT
37. SHAPOORJI PALLONJI MIDEAST. L.L.C
38. SILVER COAST CONSTRUCTION & BORING LLC
39. SIX CONSTRUCT
40. TAWAZUN INDUSTRIAL PARK LLC
41. TECTON ENGINEERING AND CONSTRUCTIONS LLC
42. TROJAN GENERAL CONTRACTING LLC
43. UNITED ARABIAN FOUNDATIONS LLC
44. UNITED ENGINEERING CONSTRUCTION CO UNEC LLC
45. URUK GENERAL CONTRACTING & MAINTENANCE LLC
46. WEBUILD S P A ABU DHABI
47. WESTERN BAINOONA GROUP FOR GENERAL CONTRACTING LLC
48. ZUBLIN CONSTRUCTION LLC





Honesty is the key of Pioneer Ready Mix's success

Customer Appreciations

The quality of the products and services provided by Pioneer Ready Mix has been widely appreciated by our customers. Some of the customers have placed their appreciation in records and sent to us. These customer recognitions force us to maintain the quality of our product and services and to strive hard to achieve higher goals in future.



Big Pourings

Pioneer Ready Mix has undertaken and successfully completed big pourings for its customers for Raft Foundations and has been appreciated for its efficiency to take up such large and sensitive works and completed it within the scheduled time.

Special Mixes

Pioneer Ready Mix specializes and has vast experience in special mixes using cementitious materials like GGBS , Micro Silica, Fly Ash and Super Pozz etc. We have undertaken and successfully completed many projects exclusively with special mixes.

Self Compacting Concrete and Plaster Mix

Pioneer Ready Mix is also supplying advanced technology mix like Self Compacting Concrete and successfully completed many projects with this special mix. We are also supplying Plaster Mix as per the requirement of the customers.

A technical paper showing the new methodology for designing self compacting concrete is provided.

High Strength Concrete

As part of our Research and Development programme we have made a design for concrete mix with 120 N strength and have tested for the quality and durability of the concrete. We found that the design and its production was successful, and it meets all the required specification of the high strength concrete of 120 N.



Calibration of Plant Equipments

All our Plants, Equipments and Laboratory Equipments are calibrated periodically by approved third party as required by the Standards.

Hot weather concrete

During hot weather, increased hydration and rapid loss of slump presents some practical problems like workability loss, plastic shrinkage, cracking and crazing, early setting, loss of long-term strength and durability.

The following steps are taken to effect control on concrete temperature:

1. A pre-placement conference is arranged to plan hot weather concreting.

2. Selected concrete materials, their proportions and Mix Designs with satisfactory hot weather concreting records are used.

3. Preventive measures like chilled water spraying of aggregated stock piles, shaded form direct sunlight, white painted cement silos, agitators for the admixture tanks & the like are strictly observed.

4. Pioneer Ready Mix has installed Water chillers ('KTI' German made) to produce chilled water (temp. less than 1 degree centigrade during peak summer) to reduce concrete temperature & supply with temp. below 320 C at site or as required by the project specification.

5. Ice is highly efficient means of cooling. 1 kg of ice absorbs 334 kJ of heat when melting at 00C. So, in addition to the chilled water, Pioneer Ready Mix is using flaked ice produced by the high performance high efficiency latest KTI German made containerized ice plants capable of producing 600 tons / day and holding another 500 tons ice in an insulated container and kept in 100% operational condition to provide the highest quality flake ice to ensure the supply of concrete at temperature below 320C during hot weather, at site







Waste Concrete Recycling

We recycle the waste concrete using Italian made recycler which wash, clean and segregate the aggregate and these recycled aggregates are used to produce low strength non-durable type concrete.

Waste Water Recycling

Waste water from the washing yard is recycled by using RGF Environmental systems (US make) which can recycle 600 gallons per hour. This water is being used for mixer cleaning and for washing aggregate at the recycler.











Mixer Cleaning system

We are using US made latest technology based machine (READY JET) which uses high pressure water instead of manual chipping of hardened concrete from the Transit Mixer Drums. This reduces exposure to silica dust, keep the drums in shape and increase drum life, helps proper agitation of the loaded concrete.





We Produce Green

Responding to the climate emergency, Pioneer Ready Mix is acting faster to reduce its impact, transform its business and create innovative solutions to make all of our concrete products Green and Sustainable. As an ADQCC approved facility we work in line with the government authorities and all other major players in this domain to achieve the goal of net zero.

In this context Pioneer Ready Mix has formulated a multiple level solutions:

1. More use of Fly Ash, Silica and Slag, the waste products of other industries, to replace a considerable percentage of cement content in the concrete. Doing so will reduce the amount of CO_2 produced per m^3 of concrete, indirectly. The other major benefit is that these Supplementary Cementing Materials (SCMs termed in Canadian Standards) also improve most of the durability characteristics of concrete.

As environmental regulations and requirements are becoming more demanding, we are planning and will try to increase our input towards the aim of a better environment.





Satellite Concrete Batching Plants at Suburbs.

In addition to the main batching plant stations at Mussafah 35 & 39 Pioneer Ready Mix had established site related concrete batching plants at various places at the suburbs of Abu Dhabi. The plants are at Khalifa City B, KIZAD, Mina Zayed, Al Riyadh City, Al Hudayriyat and Al Ruwais. All the plants are certified and approved by related project Clients, Consultants and Contractors.



1 - Mussafah M35 Plant

The infrastructure at Mussafah M35 Plant consists of:

1. Batching Plant: One LIEBHERR (Germany) Pan Mixer and two CIFA (Italian) twin shaft horizontal Concrete Batching Plant with 120m3/hr production capacity. 6 cement silos (100 tons each), one cementitious material silo and four admixture tanks.
2. Batching system: Fully computerized GPE and ONYMA Concrete Batching System.
3. Admixture Dosing: Automatic dosing from four admixture tanks.
4. Shaded Aggregate Storage: 6 compartments – each more than 450 m3 storage capacity.
5. New KTI (German) Ice Flake Machine: 85 tons/day production capacity with 85 tons storage container.
6. Water Chiller Plant: KTI (German) with 392m3/day production capacity.
7. Insulated water tanks :3 numbers, two for normal water with 40,000 gallon each and one for chilled water with 30,000 gallon capacity.
8. Transit mixers: 9 and 12 m3 drum capacity – 30 numbers. Can be increased as per requirement.
9. Concrete Mobile Pumps (SCHWING) 34 meter, 42 meter and 55 meter boom length 10 numbers. Can be increased as per requirement.
10. Prime power: Powdered by Abu Dhabi Distribution Company (ADDC) and 3 generators as backup with 725 KVA output each with synchronizing panel.
11. Fully equipped Laboratory and Research and Development Center for our in-house Quality Control and research purposes.
12. Shovels. Pickups, LD vehicles etc.





2 - Mussafah M39 Plant

The infrastructure at site consists of:

1. Batching Plant: ARBAU (Germany) Concrete Batching Plant (Pan Mixer – 2 m3 per batch) with 90m3/hr production capacity. 6 cement silos (150 tons each), one cementitious material silo and four admixture tanks.
2. Batching system: Fully computerized ALKON Concrete Batching System.
3. Admixture Dosing: Automatic dosing from four admixture tanks.
4. Shaded Aggregate Storage: 6 compartments – each more than 450 m3 storage capacity.
5. New KTI (German) Ice Flake Machine: 36 tons/day production capacity with 24 tons storage container.
6. Water Chiller Plant: KTI (German) with 392m3/day production capacity.
7. Insulated water tanks :2 numbers, two for normal water with 50,000 gallon each and one for chilled water with 30,000 gallon capacity.
8. Transit mixers: 9 and 12 m3 drum capacity – 15 numbers. Can be increased as per requirement.
9. Concrete Mobile Pumps (SCHWING) 34 meter, 42 meter and 55 meter boom length 6 numbers. Can be increased as per requirement.
10. Prime power: Powdered by Abu Dhabi Distribution Company (ADDC) and 2 generators as backup with 725 KVA output each with synchronizing panel.
11. Fully equipped site laboratory for our in-house Quality Control supported by the main Laboratory and Research and Development Center, Mussafah.
12. Shovels. Pickups, LD vehicles etc.

3. Ruwais - (Hail & Ghasha)

The infrastructure at Site consists of:

1. Batching Plant: Brand New CIFA (Italian) Concrete Batching Plant (Twin Shaft Horizontal Mixer - 3M3 per batch) with 120M3/hour production capacity with 6 cement silos (100 tons each), one Cementitious material silo and three admixture tanks.
2. Batching system: Fully computerized ONYMA Concrete Batching System.
3. Admixture Dosing: Automatic dosing from the three admixture tanks.
4. Shaded Aggregate Storage: 6 compartments - each with more than 450 M3 storage capacity.
5. New KTI (German) Ice Flake Machine: 87 Tons/day production capacity with 75 tons storage container.
6. Water Chiller Plant: KTI (German) with 392M3/day production capacity.
7. Insulated Water Tanks: 3 Numbers. Two for normal water with 22,000 Gallons each and one for chilled water with 30,000 Gallons capacity.
8. Transit Mixers: 7 to 12 M3 drum capacity – 27 numbers, can be increased as per requirement.
9. Concrete Mobile Pumps (SCHWING) 34 to 42 Meter boom length 4 numbers. Can be increased as per requirement.
10. Prime power: Two Generators with 725 KVA output each with synchronizing panel.
11. Fully equipped Site laboratory for our in-house Quality Control supported by the main Laboratory and Research and Development Center, Mussafah.
12. Shovels, Pickups, LD Vehicles etc.





4 - KIZAD Plant

The infrastructure consists of:

1.Batching Plant: CIFA (Italian) Concrete Batching Plant (Twin Shaft Horizontal Mixer - 3M3 per batch) with 120M3/hour production capacity. 6 cement silos (100 tons each), one Cementitious material silo and four admixture tanks (each).

2. Batching system: Fully computerized ONYMA Concrete Batching System.
3. Admixture Dosing: Automatic dosing from the four admixture tanks.
4. Shaded Aggregate Storage: In-line- 6 compartments - each with more than 450M3 storage capacity.
5. New KTI (German) Ice Flake Machine: 87 Tons/day production capacity with 75 tons storage container.
6. Water Chiller Plant: KTI (German) with 392M3/day production capacity.
7. Insulated Water Tanks: 3 Numbers. Two for normal water with 22,000 Gallons each and one for chilled water with 30,000 Gallons capacity.
8. Transit Mixers: 7 to 12 M3 drum capacity – 40 numbers, can be increased as per requirement.
9. Concrete Mobile Pumps: (SCHWING) 34 to 42 Meter boom length 5 numbers. Can be increased as per requirement.
10. Back up power: Two Generators with 725 KVA output each with synchronizing panel.
11. Fully equipped Site laboratory for our in-house Quality Control supported by the main Laboratory and Research and Development Center, Mussafah.
12. Shovels, Pickups, LD Vehicles etc.



5 - Khalifa City Plant

The infrastructure at Site consists of:

1. Batching Plants: CIFA (Italian) Concrete Batching Plant (Twin Shaft Horizontal Mixer - 3M3 per batch) with 120M3/hour production capacity. 6 cement silos (100 tons), One Cementitious material silo and four admixture tanks.
2. Batching system: Fully computerized ONYMA Concrete Batching System.
3. Admixture Dosing: Automatic dosing from the four admixture tanks.
4. Shaded Aggregate Storage: 10 compartments - each with more than 450 M3 storage capacity.
5. New KTI (German) Ice Flake Machine: 84 Tons/day production capacity with 75 tons storage container.
6. Water Chiller Plant: KTI (German) with 256M3/day production capacity.
7. Insulated Water Tanks: 5 Numbers. Three for normal water with 30,000 Gallons each and two for chilled water with 30,000 Gallons capacity.
8. Transit Mixers: 7 to 12 M3 drum capacity – 40 numbers. can be increased as per requirement.
9. Concrete Mobile Pumps: (SCHWING) 34 to 42 Meter boom length 3 numbers. Can be increased as per requirement.
10. Prime power: Two Generators with 725 KVA output each with synchronizing panel.
11. Fully equipped Site laboratory for our in-house Quality Control supported by the main Laboratory and Research and Development Center, Mussafah.
12. Shovels, Pickups, LD Vehicles etc.

6 - Mina Zayed Plant

The infrastructure at Site consistsof:

1. Batching Plants: Two CIFA (Italian) Concrete Batching Plants (Twin Shaft Horizontal Mixer - 3M3 per batch) each with 120M3/hour production capacity. 6 cement silos (100 tons each), two Cementitious material silo and four admixture tanks.
2. Batching system: Fully computerized ONYMA Concrete Batching System.
3. Admixture Dosing: Automatic dosing from the four admixture tanks.
4. Shaded Aggregate Storage: 10 compartments - each with more than 450 M3 storage capacity.
5. Two New KTI (German) Ice Flake Machine: 150 Tons/day production capacity with 160 tons storage container.
6. Water Chiller Plant: KTI (German) with 372M3/day production capacity.
7. Insulated Water Tanks: 5 Numbers. Three for normal water with 30,000 Gallons each and two for chilled water with 30,000 Gallons capacity.
8. Transit Mixers: 7 to 12 M3 drum capacity – 66 numbers. can be increased as per requirement.
9. Concrete Mobile Pumps (SCHWING): 34 to 42 Meter boom length 15 numbers. Can be increased as per requirement.
10. Prime power: Powered by Abu Dhabi Distribution Company (ADDC) and 3 generators as backup with 725 KVA output each with synchronizing panel.
11. Fully equipped Site laboratory for our in-house Quality Control supported by the main Laboratory and Research and Development Center, Mussafah.
12. Shovels, Pickups, LD Vehicles etc.





7 - Al Hudayriat Island Plant

The infrastructure consists of:

1. Batching Plants: CIFA (Italian) Concrete Batching Plant (Twin Shaft Horizontal Mixer - 2.5M3 per batch) with 90M3/hour production capacity. 4 cement silos (100 pour tons each), silo and four admixture tanks.
2. Batching system - Fully computerized ONYMA Concrete Batching System.
3. Admixture Dosing : Automatic dosing from the four admixture tanks.
4. Shaded Aggregate Storage: - 6 compartments - each with more than 450 M3 storage capacity.
5. New KTI (German) Ice Flake Machine - 168 Tons/day production capacity.
6. Water Chiller Plant - KTI (German) with 490M3/day production capacity.
7. Insulated Water Tanks: 3 Numbers. 2 for normal water with 23,000 Gallons each and one for chilled water with 35,000 Gallons capacity.
8. Transit Mixers 7 to 12 M3 drum capacity – 20 numbers, can be increased as per requirement.
9. Concrete Mobile Pumps (SCHWING) 34 to 42 Meter boom length 3 numbers. Can be increased as per requirement.
10. Prime power : Two Generators with 725 KVA output each with synchronizing panel.
11. Fully equipped Site laboratory for our in-house Quality Control supported by the main Laboratory and Research and Development Center, Mussafah.
12. Shovels, Pickups, LD Vehicles etc



8 - Al Bahiya Plant

The infrastructure consists of:

1.Batching Plant:SchwingStetter(German) ConcreteBathing Plant with 120m3/hr production capacity. 4 cement silos (120 tons each), one cementitious material silo and four admixture tanks.
2. Batching system: Fully computerized Stetter Concrete Batching System.
3. Admixture Dosing: Automatic dosing from four admixture tanks.
4. Shaded Aggregate Storage: 6 compartments – each more than 450 m3 storage capacity.
5. New KTI (German) Ice Flake Machine: 87 tons/day production capacity with 100 tons storage container.
6. Water Chiller Plant: KTI (German) with 392m3/day production capacity.
7. Insulated water tanks :3 numbers, two for normal water with 15,000 gallon each and one for chilled water with 30,000 gallon capacity.
8. Transit mixers: 9 and 12 m3 drum capacity – 20 numbers. Can be increased as per
requirement.
9. Concrete Mobile Pumps (SCHWING) 52 meter boom length 2 numbers. Can be increased as per requirement.
10. Prime power: Two generators with 725 KVA output each with synchronizing panel .
11. Fully equipped site laboratory for our in-house Quality Control supported by the
main Laboratory and Research and Development Center, Mussafah.
12. Shovels. Pickups, LD vehicles etc.



9 - Saadiyat Plant

The infrastructure at Saadiyat Plant consists of:

1.Batching Plant: 2 Bathing Plans: -
One True Max Concrete Bathing Plant with 4 m3 Batch capacity with 180m3/hr, and One CIFA Concrete Bathing Plant with 120 m3/Hr and related cement silos and admixture tanks.
2.Batching system: Fully computerized Batching System.
3. Admixture Dosing: Automatic dosing from four admixture tanks.
4. Shaded Aggregate Storage: 6 compartments – each more than 450 m3 storage capacity.
5.New KTI (German) Ice Flake Machine: 100 tons/day production capacity with 75 tons storage container.
6.Water Chiller Plant: KTI (German) with 392m3/day production capacity.
7.Insulated water tanks :3 numbers, two for normal water with 15,000 gallon each and one for chilled water with 30,000-gallon capacity.
8. Transit mixers: 12 m3 drum capacity – 20 numbers. Can be increased as per requirement.
9.Concrete Mobile Pumps 42 – 56 increased as per requirement.
10. Prime power: Solar Powered with Two generators with 725 KVA output as Backup.
11. Fully equipped site laboratory for our in-house Quality Control supported by the main Laboratory and Research and Development Center, Mussafah.
12. Shovels. Pickups, LD vehicles etc.



10- Ramhan Island Plant

The infrastructure at RamhanIsland Plant consists of:

1.Batching Plant: True Max Concrete Bathing Plant with 4 m3 Batch capacity with
180m3/hr, cement silos (160 tons each), one cementitious material silo and four admixture tanks.
2.Batching system: Fully computerized Batching System.
3. Admixture Dosing: Automatic dosing from four admixture tanks.
4. Shaded Aggregate Storage: 6 compartments – each more than 450 m3 storage capacity.
5.New KTI (German) Ice Flake Machine: 100 tons/day production capacity with 75 tons storage container.
6.Water Chiller Plant: KTI (German) with 392m3/day production capacity.
7.Insulated water tanks :3 numbers, two for normal water with 15,000 gallon each and one for chilled water with 30,000-gallon capacity.
8. Transit mixers: 12 m3 drum capacity – 15 numbers. Can be increased as per requirement.
9.Concrete Mobile Pumps 42 – 56 increased as per requirement.
10. Prime power: Two generators with 725 KVA output as Backup.
11. Fully equipped site laboratory for our in-house Quality Control supported by the main Laboratory and Research and Development Center, Mussafah.
12. Shovels. Pickups, LD vehicles etc.

Our Iconic Projects


Abrahamic Family House


Al Bateen Marina Resort


AL Bustan


Al Falah Village Community


Al Qana AbuDhabi


Borouge - 4


Burjeel Hospital


Capital Gate


Dusit Thani


Etihad Plaza


Guggenheim Museum


IPIC Tower


Leaf tower


Manazel Al Reef 2


Mazyad Mall

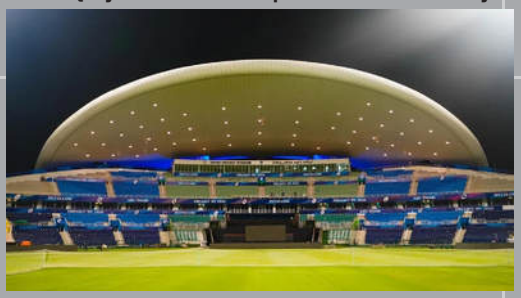

Nord Anglia School


Qaryat Al Hidd Development


Royal Academy Private School


Sail Tower


Sheikh Shakhbout Medical City

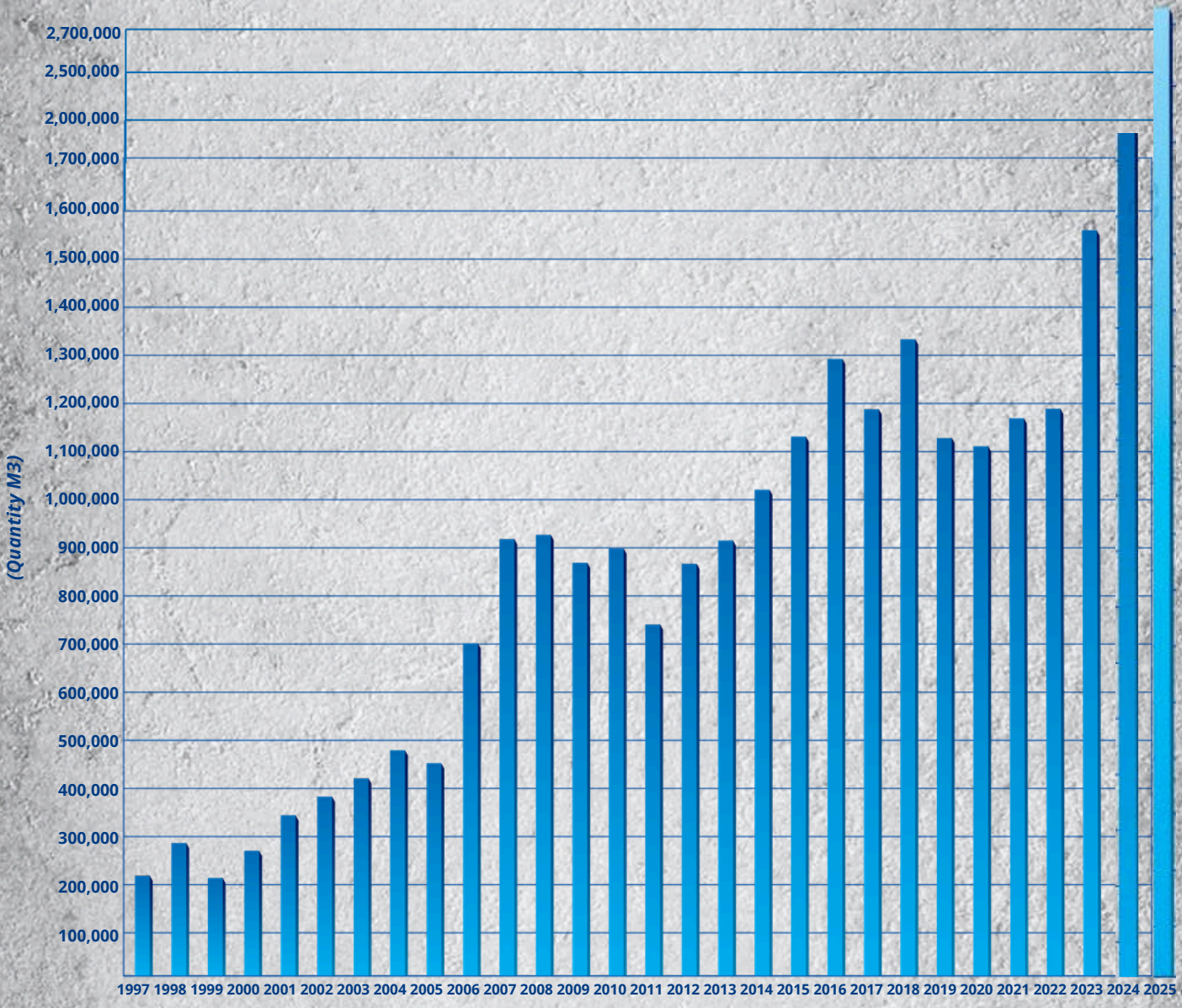

Sheikh Zayed Cricket Stadium


The Grove Phase -1


Warner Bros Hotel Apartments



Pioneer Ready Mix Production Analysis



Pioneer Ready Mix Production Analysis From 1997 - 2025 **(Forecast)**



Case Studies at Pioneer Ready Mix R & D Center

1. Graphene Concrete

Introduction: Inthe ongoingpursuit ofsustainable alternatives, the development of graphene concrete has emerged as a groundbreaking solution. This innovative material, integrating graphene into concrete formulations,



Figure 1 Graphene Material

for its transformative potential in the construction industry. Studies have shown that the addition of graphene can enhance the mechanical properties of concrete, boasting a remarkable improvement of up to 146% and 79.5%

graphene exhibits exceptional properties, including high mechanical strength, electrical conductivity, and thermal conductivity, making it a versatile material for various applications. The ongoing research at Pioneer Ready Mix's research and development center focuses on exploring the full spectrum of graphene's properties.

Hydration Process: Graphene plays a crucial role in the formation of a dense cement
stone structure, primarily consisting of low-basic calcium hydro-silicates. This results in a substantial enhancement of the physical and mechanical characteristics
of concrete, providing increased resistance to frost and other forms of aggression.

Figure 2 illustrates a proposed 3D network structure, where Ca2+ ions act as linking
points connecting graphene oxide (GO) nanosheets with cement hydration products.

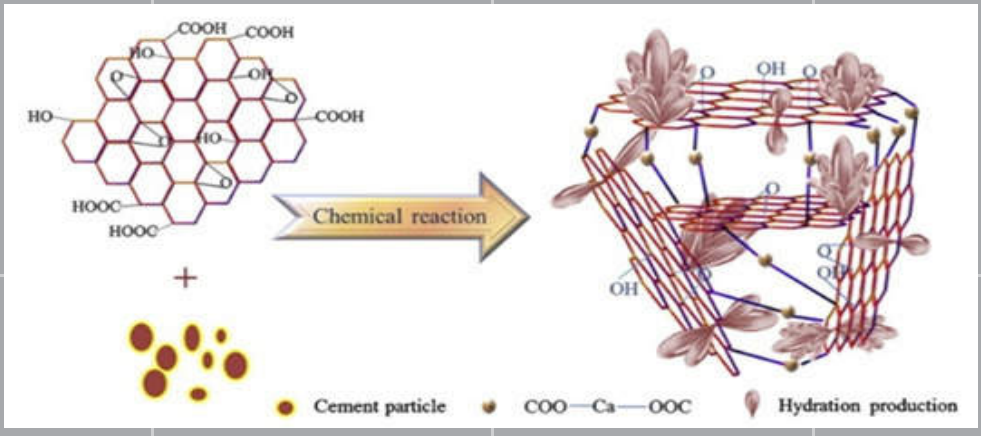


Figure 2 Conceptual Representation of Cement Incorporated with Graphene Oxide Nanosheets

Performance Properties of Graphene in Concrete:

1. Mechanical Properties: Graphene has demonstrated remarkable potential in enhancing the mechanical properties of concrete. Various studies have investigated the impact of pristine graphene, graphene oxide (GO), and reduced graphene oxide (rGO) on concrete, showcasing notable improvements.

2. Compressive Strength: The addition of graphene, particularly at 0.05% by weight, has been found to maximize compressive strength by up to 146%. Reduced porosity contributes to this improvement, marking a significant breakthrough in structural resilience.

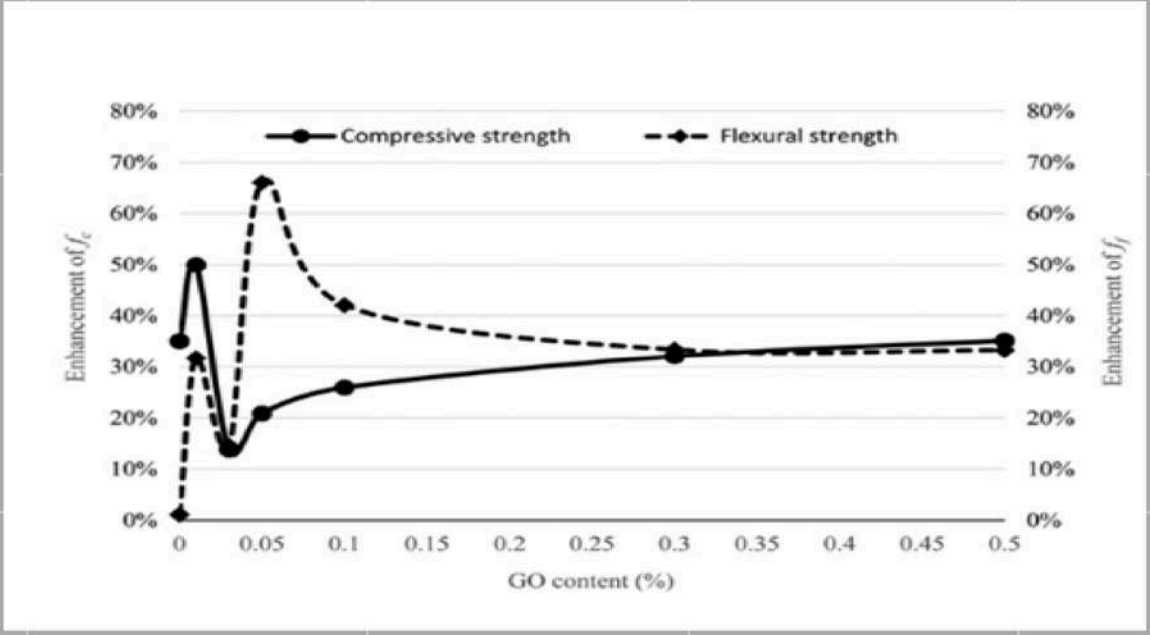
3. Flexural Strength: Experimental investigations have revealed that an optimal addition of 0.05% GO can enhance flexural strength by nearly 35%. This reinforces the material's ability to withstand bending forces, crucial for applications in construction.

4. Modulus of Elasticity: Incorporating small amounts of graphene, around 0.05% by mass of concrete, can elevate the elastic modulus by over 18% after two weeks of curing. This enhancement further translates to increased overall structural stability.

5. Durability and Long-term Performance: Graphene's addition to concrete results in superior mechanical properties, reduced water permeability, efficient heat and electrical conductivity, and enhanced thermal conductivity. These attributes contribute to the material's long-term performance and durability.

6. Reduced CO2 Emissions: Research indicates that the incorporation of small amounts of graphene in concrete has a significant impact on reducing CO2 emissions associated with concrete production, aligning with sustainability goals.

This case study highlights the promising advancements in graphene concrete, showcasing its potential to revolutionize the construction industry by offering a sustainable, high-performance alternative. Ongoing research and development activities continue to uncover new dimensions of graphene's capabilities at Pioneer Ready Mix.





2. Lightweight Concrete Recent Advances in Production Methods

Introduction: Lightweight aggregate concrete is a specialized form of concrete that incorporates lightweight aggregates or low-density materials, such as volcanic pumice, clay, slate, shale, scoria, tuff, and perlite. The classification of concrete as lightweight occurs when its density is not more than 2200 kg/m3, in contrast to normal concrete, which typically ranges from 2300-2400 kg/m3. Pioneer Ready Mix has achieved significant success in producing lightweight aggregate concrete with a density of 1800 kg/m3 while maintaining a compressive strength of C60 MPa. and other forms of aggression. Figure 2 illustrates a proposed 3D network structure, where Ca2+ ions act as linking points connecting graphene oxide (GO) nanosheets with cement hydration products.

Performance Properties of Lightweight Aggregate Concrete:

1. Compressive Strength: Lightweight aggregate concrete meets the construction industry's required compressive strength levels, suitable for applications such as cast-in-place, precast, or prestressed concrete.

2. Reduced Water Absorption: Studies indicate that high-quality lightweight concretes exhibit minimal water absorption, maintaining their low density. The permeability of lightweight concrete is notably low, often equal to or lower than that of normal weight concrete.

3. Internal Curing: Lightweight aggregates, when batched at a high degree of saturation, can serve as internal curing agents in concrete with a high volume of cementitious materials.

4. Reduced Thermal Conductivity: The thermal conductivity of concrete is influenced by factors such as density, moisture content, and pore size. Due to the lower density and increased pore space, lightweight concrete demonstrates lower thermal conductivity compared to normal concrete.

5. Fire Resistance: ASTM E 119 testing has shown that structural lightweight concrete slabs, walls, and beams exhibit greater fire-endurance periods than equivalent-thickness members made with ordinary aggregate concretes.



Applications of Lightweight Aggregate Concrete:

1. Screeds and Thickening: Used for general purposes, especially when additional weight to floors, roofs, and structural members is undesirable.

2. Fire Protection: Applied as a covering for structural steel to enhance fire resistance and corrosion protection or for architectural purposes.

3. Heat Insulation on Roofs: Utilized to provide insulation on roofs for thermal efficiency.

4. Insulating Water Pipes: Employed for insulating water pipes to prevent heat loss

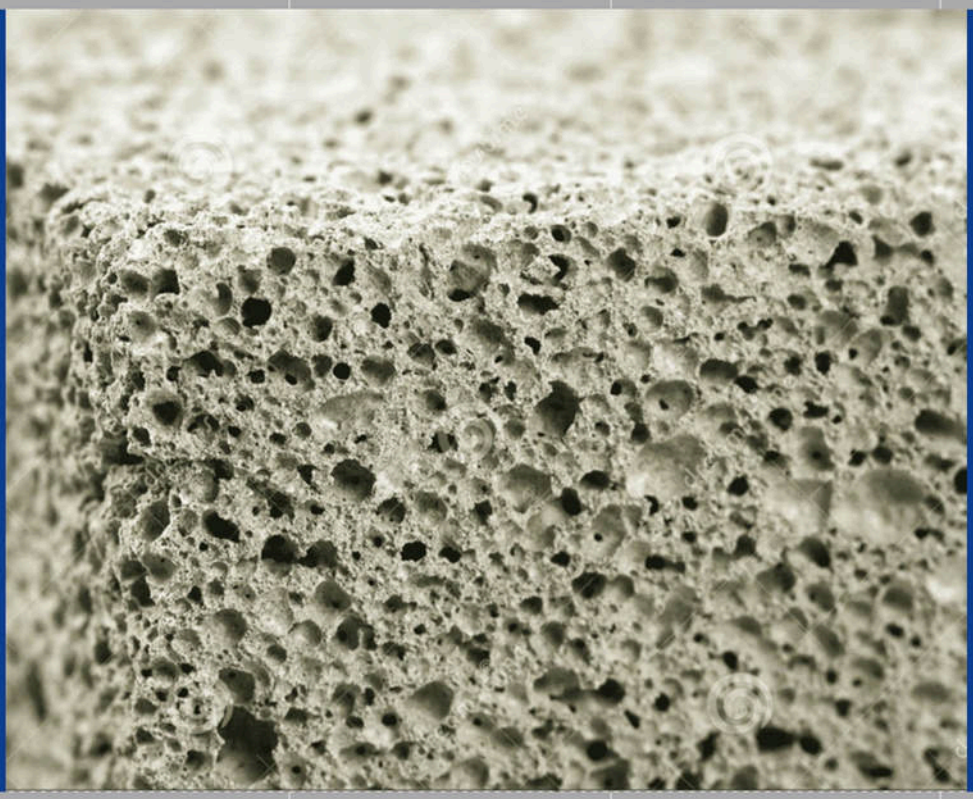
5. Partition Walls and Panel Walls: Used in the construction of partition walls and panel walls in frame structures.

6. Fixing Bricks: Used for fixing bricks to receive nails from joinery, particularly in domestic or similar construction.

7. General Wall Insulation: Applied for the overall insulation of walls.

8. Surface Rendering: Used as surface render for external walls of small houses

The use of lightweight aggregate concrete offers a range of benefits and diverse applications, making it a valuable solution in construction projects. Ongoing research and development contribute to further advancements in production methods at Pioneer Ready Mix.



3. Concrete Resistance to Chemical Attacks

Chemical attacks on concrete involve the deterioration or degradation of concrete structures due to exposure to aggressive chemicals. While concrete is renowned for its strength and durability, it can be susceptible to damage when exposed to certain chemicals. Various types of chemical attacks, including acid attack, alkali-aggregate reaction, chloride attack, sulphate attack, and carbonation, can affect the integrity of concrete structures.

In-House Research at Pioneer Ready Mix Research and Development Center: A comprehensive research study was conducted at Pioneer Ready Mix Research and Development Center in Mussafah, in collaboration with McGill University, Montreal, QC, Canada, to investigate the impact of various chemicals on different types of concrete. Concrete samples were cast with different mixes, including 100% ordinary Portland cement and proportions of cementitious materials such as GGBS, Fly Ash, and Micro Silica.

The casted samples were subjected to different chemical solutions, including NaCl (Sodium Chloride), Na2SO4 (Sodium Sulphate), Lime (Calcium Hydroxide), and seawater, to study the concrete›s behavior against chemical attacks. Over time, various tests were conducted on the samples, including chemical profiling, Ultrasonic Pulse Velocity, Surface resistivity, and others, to assess the impact of different chemicals on concrete.

Research Findings: The study revealed severe chloride and sulphate ingress, as well as delayed ettringite formation, in the concrete mix with 100% Portland Cement, resulting in significant damage. Conversely, the concrete mix with varying proportions of cementitious materials showed little to no effect against the exposed chemicals, with no observable physical damage to the concrete.

Results and Images: Images of concrete samples from both the 100% OPC mix and the mix with varying proportions of OPC and cementitious materials were compared. The images demonstrated the visible damage in the 100% OPC mix (Figure 07) and the resilience of the mix with varying proportions of OPC and Cementitious Materials (Figure 06).



Figure 7 Actual Concrete Mix Sample (100% Portland Cement) Exposed To Chemicals undergo severe chemical attack with damage of concrete



Figure 6 Actual Concrete Mix Sample (with Cementitious Materials) exposed to various chemicals undergo no any damage in concrete

The research highlights the importance of incorporating supplementary cementitious materials to enhance the chemical resistance of concrete and mitigate the detrimental effects of aggressive chemicals. Pioneer Ready Mix continues its commitment to research and development to advance concrete technology and ensure the durability of concrete structures in challenging environments.











PIONEER READY MIX
بايونير للخرسانة

TOGETHER WE BUILD THE FUTURE

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