Modern
CONCRETE
All Products

Building your Dream ...

PREQUALIFICATION DOCUMENTS

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INTRODUCTION

Modern 4 concrete is a manufacture of a full range of precast building components including the provision of all services from conceptualization and design to installation and after sales service.

Modern 4 concrete was established since 2009 with the aim of leading the way in Egypt towards highly industrialized construction practices.

Modern 4 concrete factory is located in El-Sadat city; Industrial zone on total area (175,000), this factory truly was born a giant, because we hired a professional staff of engineers and technicians for each department, looking after the business in all stages: Initial Design, Proposal, Quotation, Shop drawing, Production, Quality Control and Erection.

Modern 4 concrete has the capability to deal with the all types of projects :

Industrial Building, Administrative Bldg.,Schools, Hospitals, Housing, Car Parking, Commercial buildings and all sorts of miscellaneous precast products using our different variety of precast concrete building systems.

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Our Vision & Our Mission

OUR VISION

Our Vision is to create a better every day life for many people in Egypt. We make this possible by offering a wide range of well-designed, functional precast concrete products.

OUR MISSION

We believe that innovative, industrially produced construction solutions will further continue their breakthrough in Egypt. Together with our strong local Know-how and international back ground. **Modern 4 concrete** will be an important contributor in this development as the country continues its rapid expansion. We focus on precast concrete construction methods as a technical support for all consultant offices in Egypt to develop our urban renaissance.

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Our Products

OUR PRODUCTS

OUR PRODUCTS


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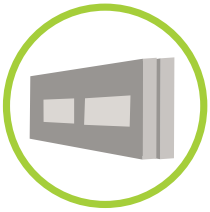
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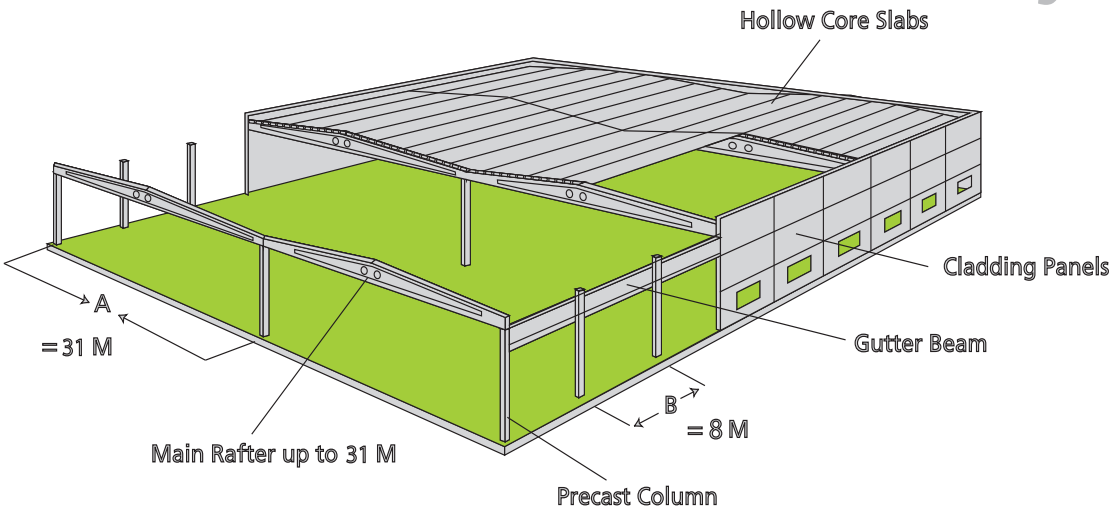


OUR PRODUCTS

PRECAST CONCRETE WHAT AND WHY?

Precast concrete is a type of construction material made with concrete cast in a reusable mold or "form" and cured in a controlled factory environment, then transported to the construction site and fixed into place. Our precast technology produces a wide variety of finished products, suitable for numerous architectural and structural applications, such as Wall panels, beam, column, Rafter, highway barriers, pre-stressed bridge girders, and man-holes.

There are many different types of precast concrete forming systems for architectural applications, differing in size, function and cost.

Bucket Foundation:

Precast Bucket foundations realize the site-work faster and cheaper. Indeed, cast on site buckets need rather complex molding and reinforcement, and working conditions are more unfavorable.

It may be used only in conditions of firm and level ground. Buckets sometimes have dowels and base plate is cast on site or whole unit can also be precast.

OUR PRODUCTS

Columns:

Precast columns are manufactured in a variety of sizes, shapes and lengths. The concrete surface is smooth and the edges are chamfered. Columns generally required a minimum cross-sectional dimension of 30*30 cm up to 100*100cm (with corbels) or more as per structural design requirements.

Columns with a maximum length up to 20m can be manufactured and erected in one piece, although a common practice is to work also with single-storey columns which both can be grouted to bucket foundations (on good soil) or holding down by base plate and bolts (on weak soil).

Beams:

Precast & pre-stressed beams types:

- R-Beam: Rectangular roof or floor beams for moderate spans or composite action with floor slabs.
- L-Beam: for carrying edge floors from one side only.
- Inverted T Beam: for carrying floors both sides of middle to large spans.
- Beams: for roofs and large floor-beam spans.
- Rafters : for roof beams with sloped pans for large spans.

Rafter:

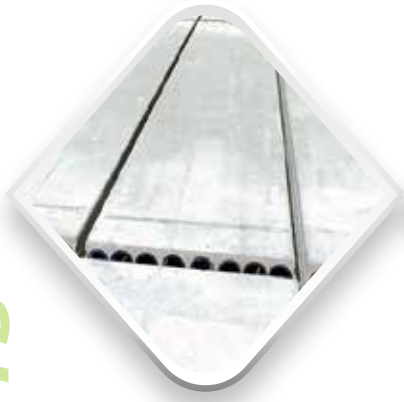
Rafters are roof beams with sloped pans for large spans. MODERN concrete have two main standardized precast rafter beams, both have a slim cross-section for span (20 -25 up to 32m). They are provided with details and inserts for connections and other specific purposes like fixings with roof slabs.

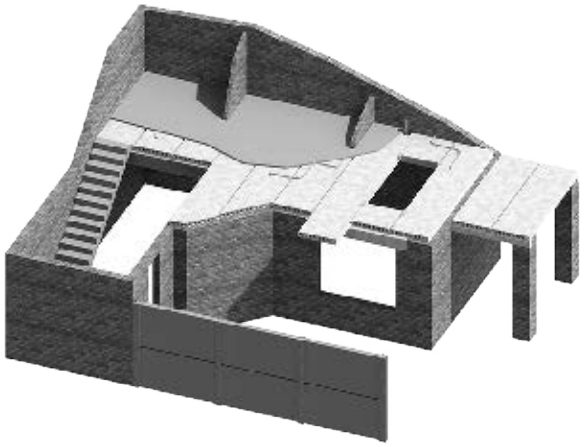
OUR PRODUCTS

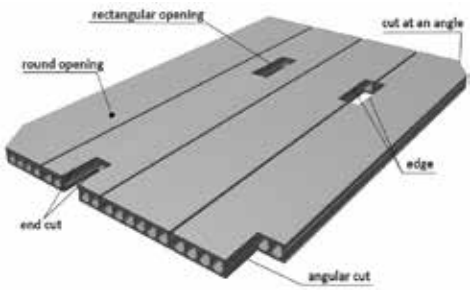
Hollow Core:

Nominal width of hollow core pre-stressed slab units is 1200mm, inclusive of the longitudinal joint. The standard profiles have a fire resistance of 60 to 120 minutes. Our standard thicknesses: 160, 200, 265, 320, 400, 500 mm which can reach 20m spans on roofs and 120 for boundary wall.

Main advantage of our hollow core slabs is the smooth of finish on slab's bottom which you can paint directly.

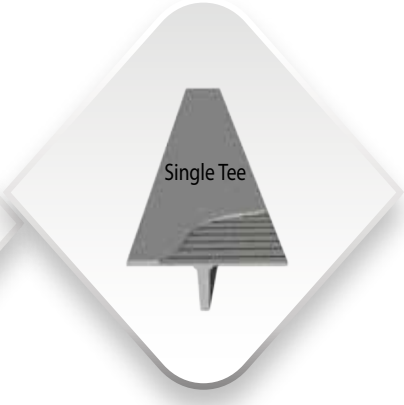






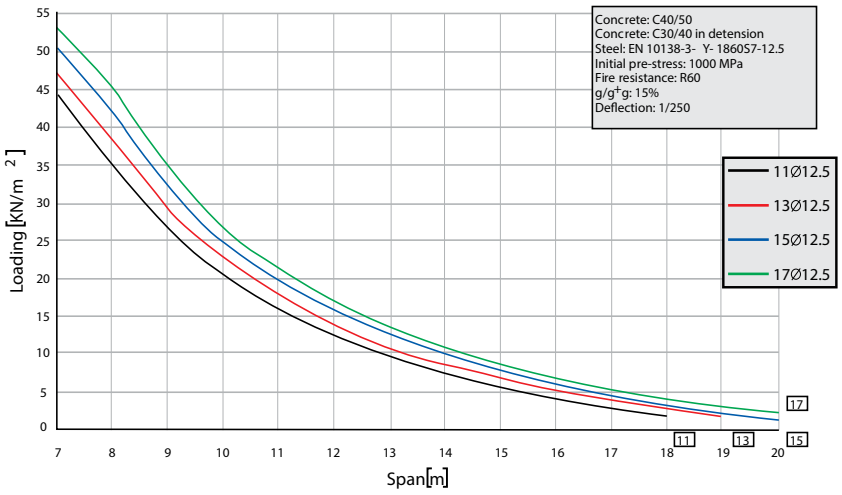
Double T Slabs (TT):

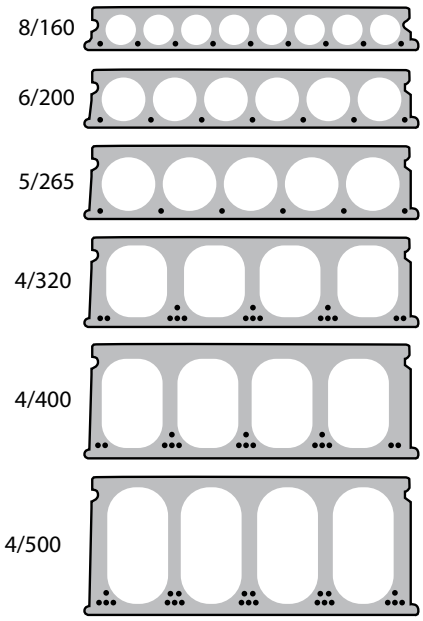
TT floor slab units in pre-stressed concrete have a ribbed cross-section and a smooth under face. The units are mainly used for greater spans and imposed loading. Our standard maximum width = 3000mm which can be smaller (mini. = 1500mm) to meet a particular project requirements. Also, cross-section depth can be confirmed according to structural span (Standard depth including flange thickness = 40, 50,60, 70, 80, 90 & 100 cm) to produce up to 30m span long.



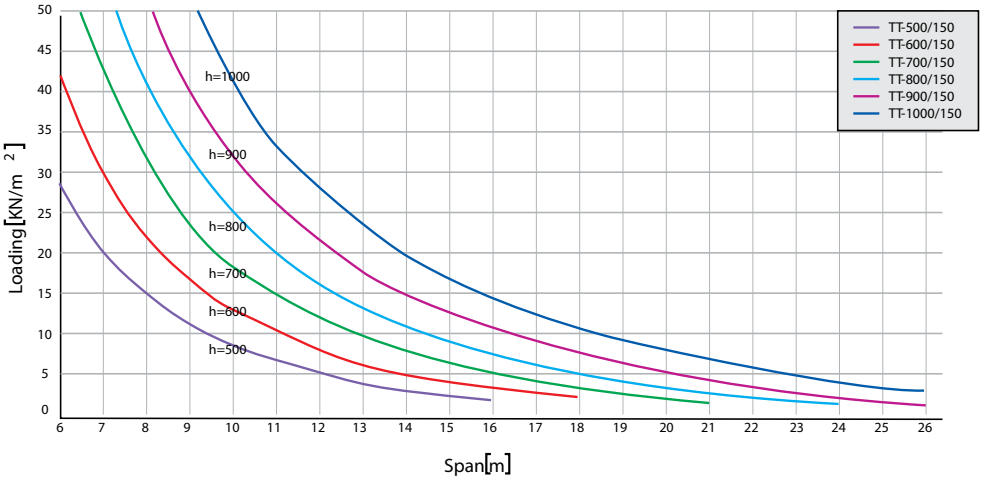
Hollow Core & Double T Slabs

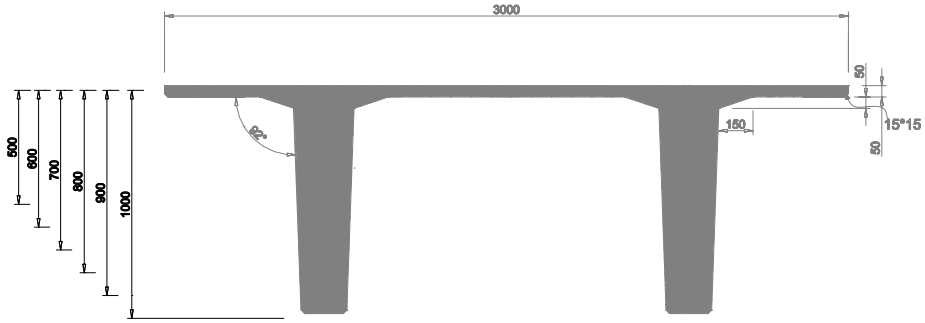
Capacity curves hce 500
according to EC2 dwg P65346



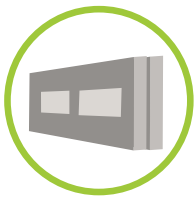


Capacities of T T-3000/150





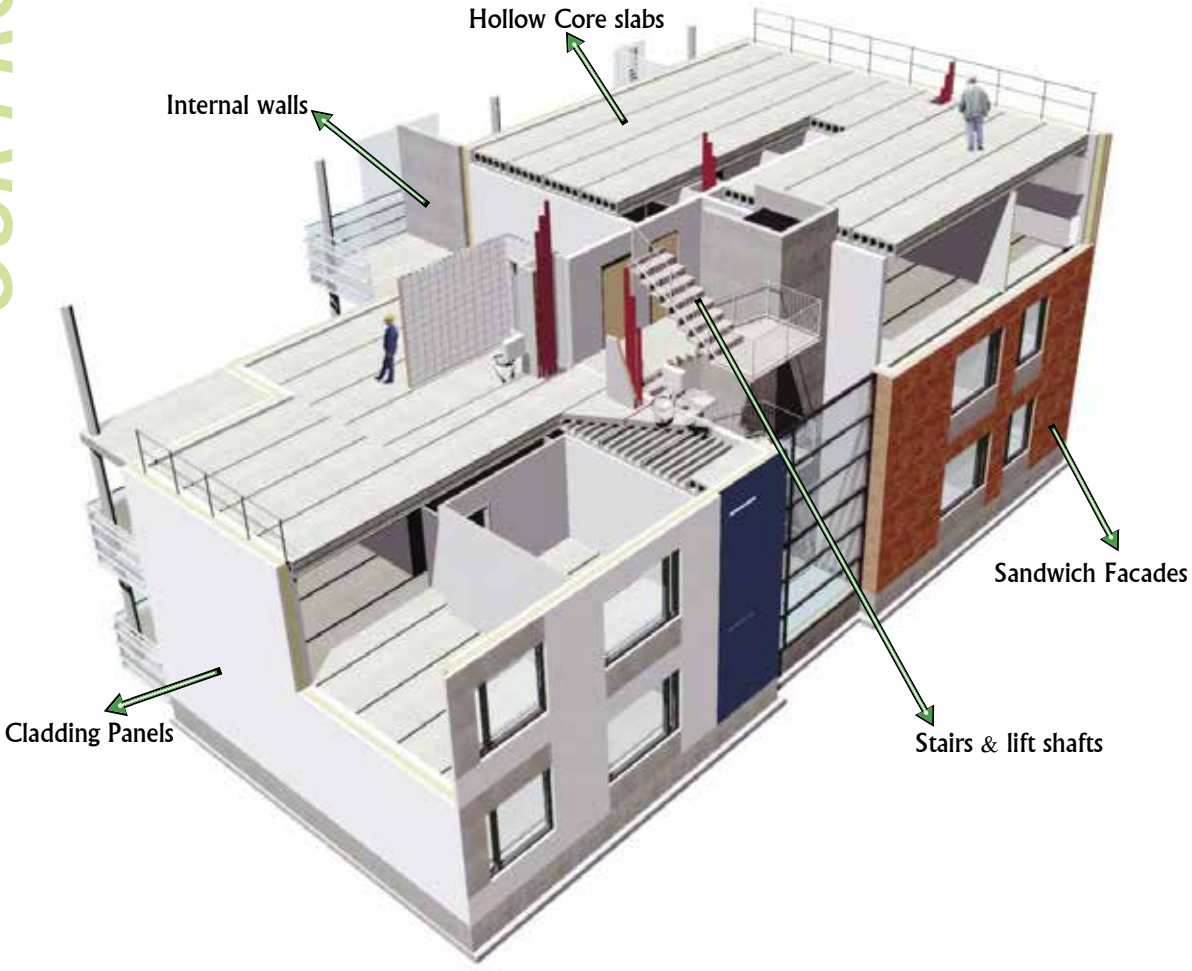
OUR PRODUCTS



Walls:

Load bearing panels for wall frame system can be designed to support vertical loads from floors and upper structure as solid or insulated walls.

Our New Products for cladding panels are normally composite, sandwich (insulated) panels to perform the sound and thermal insulation (U-Value)
or solid panels but, all types can be with wide range of different decorative shapes and required external finish (Sandblast - Washed aggregate - Smooth).



BOUNDARY WALL :

Wall panels also used to construct Standard & Non-standard Boundary Fences (permanent & temporary types).

With the increasing demand for boundary walls in Egypt, Modern 4 concrete has developed complete engineering solutions, advanced and economical types of boundary walls for palaces, villas, residential complexes, private and public gardens, farms and other facilities.

Modern 4 concrete boundary wall system includes the following:

Precast boundary walls with different heights and appearances, using isolated or strip footing according to soil bearing capacity.

Hollow core boundary wall which is an economical alternative suitable for industrial activities or farms.

OUR PRODUCTS

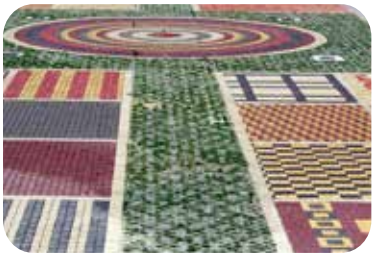
OUR PRODUCTS

Block Factory







Block, Curbstones & Inter-lock Factories:

We are producing our Block, inter-lock & curbstones by the latest methods of technology on the world using an integrated production line operating at full levels automatically imported from MASA International company from Germany which is specialized on this field. In addition we have a complete system of curing chamber for all products.

Our production stages are running on precision steel moulds to produce high quality elements for all types of Block, curbstones & inter-lock, also for any other elements with different thicknesses (from 40mm up to 400 mm).

Our factories and plants are comply to achieve the requirements and technical terms & conditions of related international specifications of (ICPI – ASTM) also with Egyptian Code.

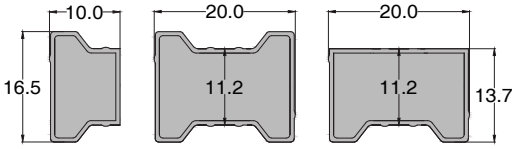
Behaton Paver

This form is considered the most common and important one. It has strong consistency because of the entangling between the pavers so it is suitable for roads, squares, warehouses, ports and airports especially when using the mechanical paving.

In addition to that, the availability of the spacers and the chamfered perimeter increases the friction force and the consistency between the tiles and gives a better steadiness for the tiles.

This type is available with a thickness of 6 cm for normal loads and a thickness of 8 cm for heavy loads.

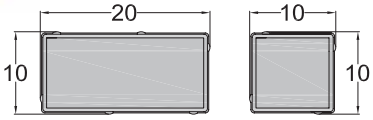
A variety of beautiful designs can be achieved in paving especially when using colors.



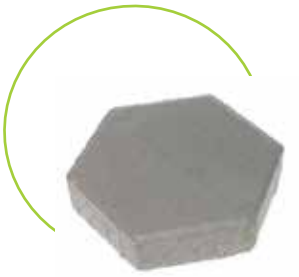
Sizes(Cm)	20 × 16.5	
Thickness Of Stone(Cm)	8	6
Area Per Stone(Cm2)	280.0	280.0
Weight Per Stone(Kg)	4.90	3.65
Numbers / Layer	35+(2×1/2)	35+(2×1/2)
Area (M2) /layer	1.01	1.01
Weight (Kg) / Layer	176.40	131.40
Area (M2) / Bundle(10 Layer)	10.08	10.08
Weight (Kg) / Bundle(10 Layer)	1764.0	1314.0

Rectangular Paver

The rectangular pavers have a fast paving process and many beautiful patterns. They are used in all locations and are available with thickness of 6 cm for normal loads and of 8 cm for heavy loads. The tiles come with spacers and chamfered outline to provide greater strength and consistency.



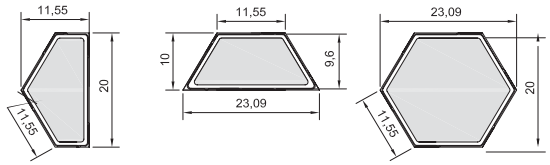
Sizes(Cm)	20 × 10	
Thickness Of Stone(Cm)	8	6
Area Per Stone(Cm2)	200	200
Weight Per Stone(Kg)	3.55	2.60
Numbers / Layer	59+(2×1/2)	59+(2×1/2)
Area (M2) /layer	1.20	1.20
Weight (Kg) / Layer	213.00	156.00
Area (M2) / Bundle(10 Layer)	12.00	12.00
Weight (Kg) / Bundle(10 Layer)	2130.0	1560.0



Hexagonal Paver

Its considered from the important and very common patterns. .Its simple shape makes it easy to install and it can produce wonderful formations especially with good choice of colors.

It has high consistency due to the great entangling among pavers . Its available with thickness of /6/ cm and /8/cm with chamfer as well and wonderful halves.

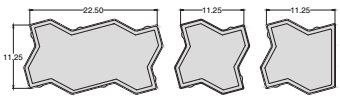


Sizes(Cm)	23.09 × 20	
Thickness of stone(cm)	8	6
Area per stone(cm2)	346.29	346.29
Weight per stone(kg)	6.10	4.60
Numbers / layer	29+(4×1/2)	29+(4×1/2)
Area (m2) /layer	1.07	1.07
Weight (kg) / layer	189.10	142.60
Area (m2) / bundle(10 layer)	10.73	10.73
Weight (kg) / bundle(10 layer)	1891.0	1426.0

Uni paver

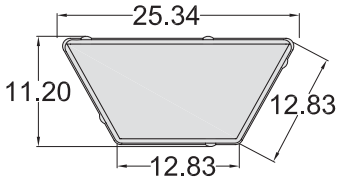
This is considered a classical and common pattern in the world, it is used very often in the squares, gas stations, and roads.

It can be paved with several beautiful patterns and its available thickness is / 6 / cm with chamfer and spacers at the perimeter of the paver to insure a big increase in consistency.



Decor Paver

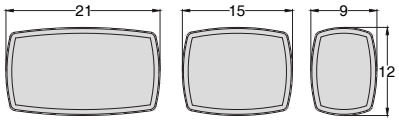
It is clear from its name that this type has a great ability to give great art forms which are very suitable for large spaces, parks gardens and for people who have a nice taste. It is available with thickness of /6 /cm with spacers and chamfers at the perimeter of the paver.



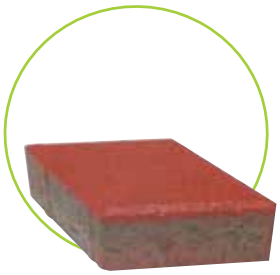
Sizes(Cm)	25.34 × 11.20
Thickness Of Stone(Cm)	6
Area Per Stone(Cm2)	213.8
Weight Per Stone(Kg)	2.70
Numbers / Layer	48
Area (M2) /layer	1.03
Weight (Kg) / Layer	129.60
Area (M2) / Bundle(10 Layer)	10.26
Weight (Kg) / Bundle(10 Layer)	1296.0

Classico Paver

The presence of three sizes for the paver gives a big choice for the designer to form curves, circles and arcs.
As its name indicates, it takes us back to ancient times
This form is used in decorative works of art and it can take advantage of the spaces formed among the pavers for planting turf which gives wonderful forms.
It is available in thickness of 6 cm and chamfer at the perimeter of the paver.

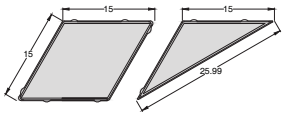


Sizes(Cm)	Big 21 × 12	Medium 15 × 12	Small 9 × 12
Thickness Of Stone(Cm)	6	6	6
Area Per Stone(Cm2)	252	180	108
Weight Per Stone(Kg)	3.20	2.25	1.20
Numbers / Layer	16	24	24
Area (M2) /layer		1.09	
Weight (Kg) / Layer		134.00	
Area (M2) / Bundle(10 Layer)		10.94	
Weight (Kg) / Bundle(10 Layer)		1340.0	



Rumba Paver

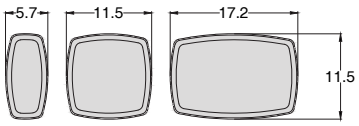
It generates beautiful pavement shape which gives an impression that it is three-dimensional.
It is easy to install and suitable for large assembly courtyards in schools, universities or malls... especially when using colors.
It is available with a thickness of 6 cm and it comes with spacers and chamfers at the perimeter the matter which gives greater strength and consistency.



Sizes(Cm)	15 × 15
Thickness Of Stone(Cm)	6
Area Per Stone(Cm2)	194.85
Weight Per Stone(Kg)	2.50
Numbers / Layer	56 + (6 × 1/2)
Area (M2) /layer	1.15
Weight (Kg) / Layer	147.50
Area (M2) / Bundle(10 Layer)	11.50
Weight (Kg) / Bundle(10 Layer)	1475.0

Rusto Paver

The possibility of forming curves and circles is big because of its three sizes (small, medium and big)
Very suitable for gardens parks and for those who want to go back in the beautiful time!
It can be mixed with the (Classico) type for bigger possibilities for forming circles and curves. Available thickness is 6 cm with chamfer at the perimeter.

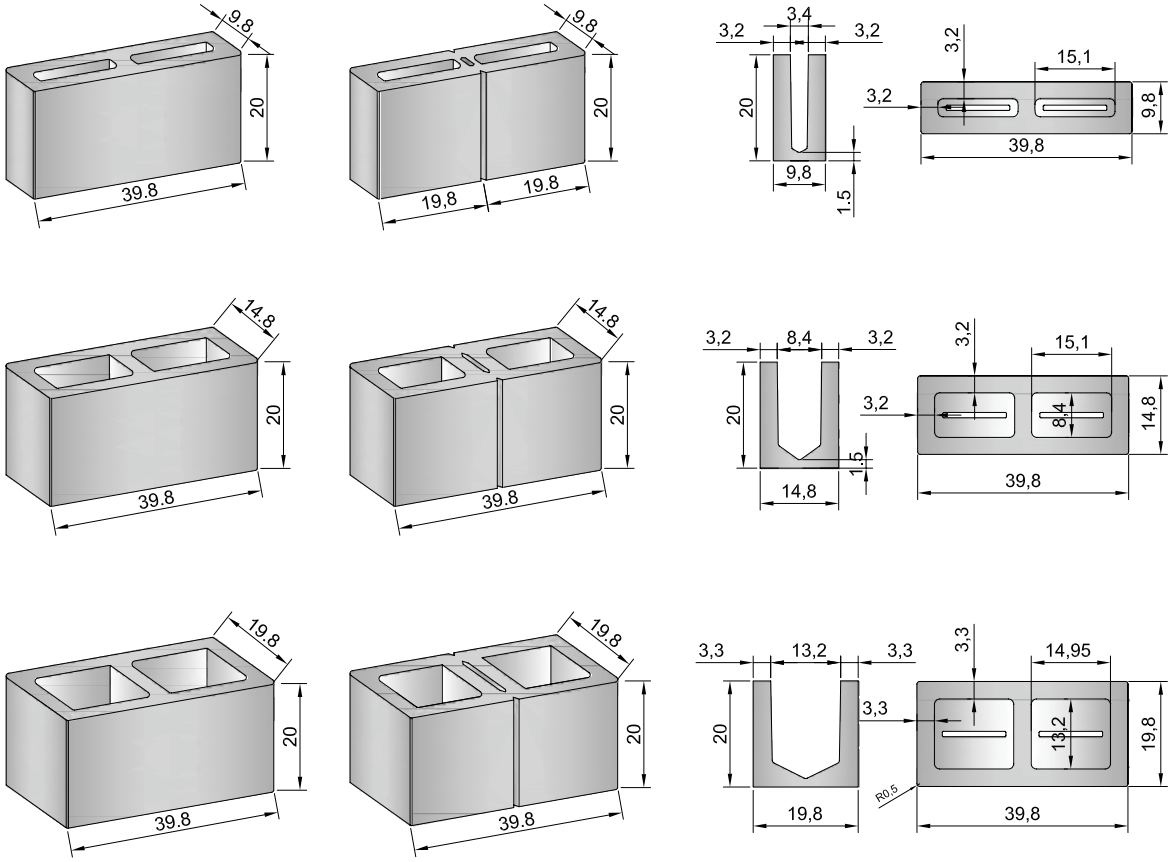


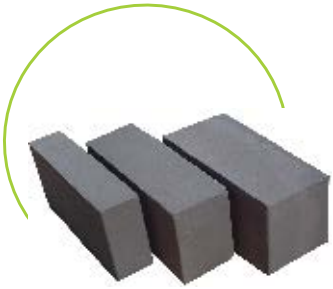
Hollow Block

It is low cost and light weight , it is possible also to produce economical colored hollow Block with smooth surface without the need for any external finishing. Because of the availability of the colored smooth hollow blocks, there is no need for paint and their related problems!

Available thicknesses are 10, 12.5, 15, 20 & 25 cm type (H10 & H15 & H20).

The half-blocks are necessary for this type of blocks to reduce waste and increase speed of work.



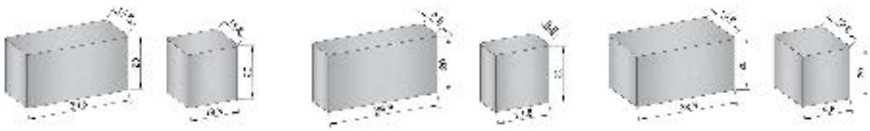


Solid Block

The solid blocks produced by the Modern Concrete Company have accurate dimensions and high quality international standards.

The company produces as well special types additional to the traditional Blocks (with normal surface), it is the smooth block (or ultra-smooth), which does not need finishing works, the matter which gives big savings in cost and time of execution. It's also possible to produce the smooth and colored blocks for more beautiful shape. Available in three thicknesses/10/ & /15/ &/20/ cm type (S10 & S15 & S20)

The presence of half-blocks, for all measurements, reduces waste and increases the work speed.

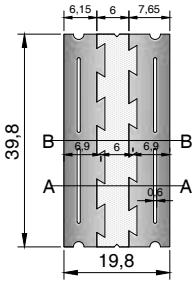


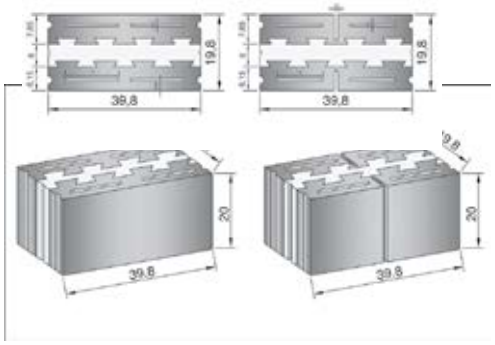
Insulating block

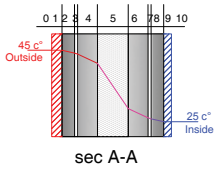
The insulated block measurements (20 × 20 × 40) cm which is made of two layers of blocks with insulator of material polystyrene between is the most common worldwide because of its simplicity in installation and saving the dimensions.

The production of Modern concrete Company of this product is comparable to (EU) products and has the same specifications of German code for these characteristics:

1.Expanded polystryne ,density =22 – 24 kg/m3
2.Heat flow density q = 10.6 w/m2
3.Heat storage factor Q = 54.5 kcal/m2 C
4.U – value u = 0.4185 w/m2 C
5.Cooling time h = Q ×1/u = 54.5 ×1/ 0.4185=130.2 hours





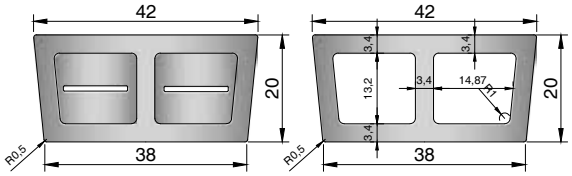


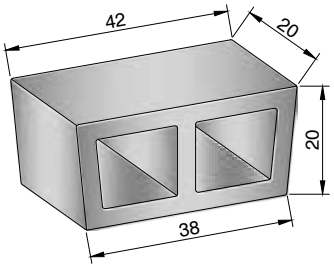
sec A-A

Hourdi Block

Hourdi block, size (38/42 × 20 × 40) is one of the most popular sizes for this type, they are high resistance, durable and accurate in terms of dimensions.

It is also available with enclosed side to prevent leakage of concrete inside the block at the edges.



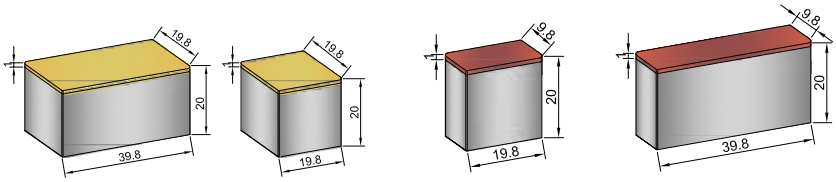


Interlock Block

The interlock block has thickness of 20 cm and a colored and smooth side surface.

This type of block gives you a chance for wonderful formations in the outer walls of the halls, factories, fences and even buildings, private apartments and villas. Its prices is affordable and it does not need finishing works nor paint, weather problems are not on issue any more as the interlock layer is about 10 mm.

The availability of two heights (20 cm and 10 cm) and also the half- cut blocks give wonderful formations and designs.



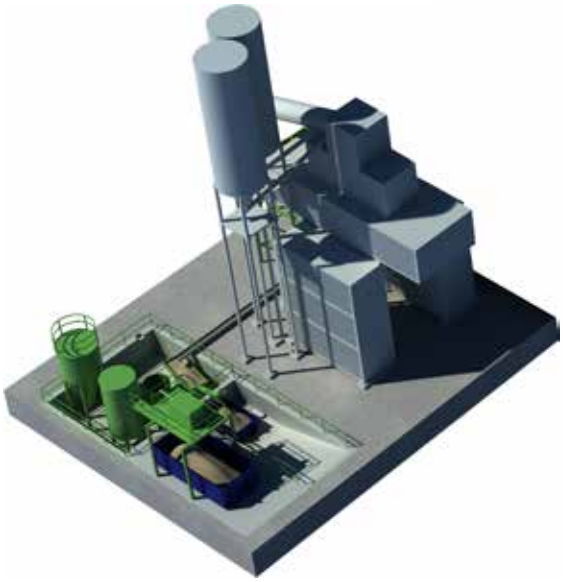
Ready Mix

OUR PRODUCTS

MODERN for concrete represents unlimited support to the construction activities in El-Sadat City, having the ability to pass the critical situations without annoying the customer.

With the success granted by God, we started the production of ready mix concrete since 2009.

Our factories supplied ready mix concrete for significant number of projects and works according to international specifications (ACI - ASTM).



Modern CONCRETE All Products

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4

Company Activities & Services.

Company Activities & Services

Modern 4 concrete is providing any client a special technical support by providing a value engineering for their projects with a comparison between precast system and other types of construction.

We are preparing:-

1. Initial architecture and structural design,
2. Proposal with technical and commercial quotation,
3. Complete coordination with consultant and main contractors to get required approvals,
4. Complete structural calculations and shop drawings to get the construction permit from Municipalities,ordination with consultant and main contractors,
5. Manufacture Shop drawings to start production,
6. High level of Quality Control during manufacturing, curing, transportation & installation on site,
7. 10 years of Grantee for water proofing systems on the roof slabs,
8. Complete technical support after construction for any type of revisions or modifications required for the projects.

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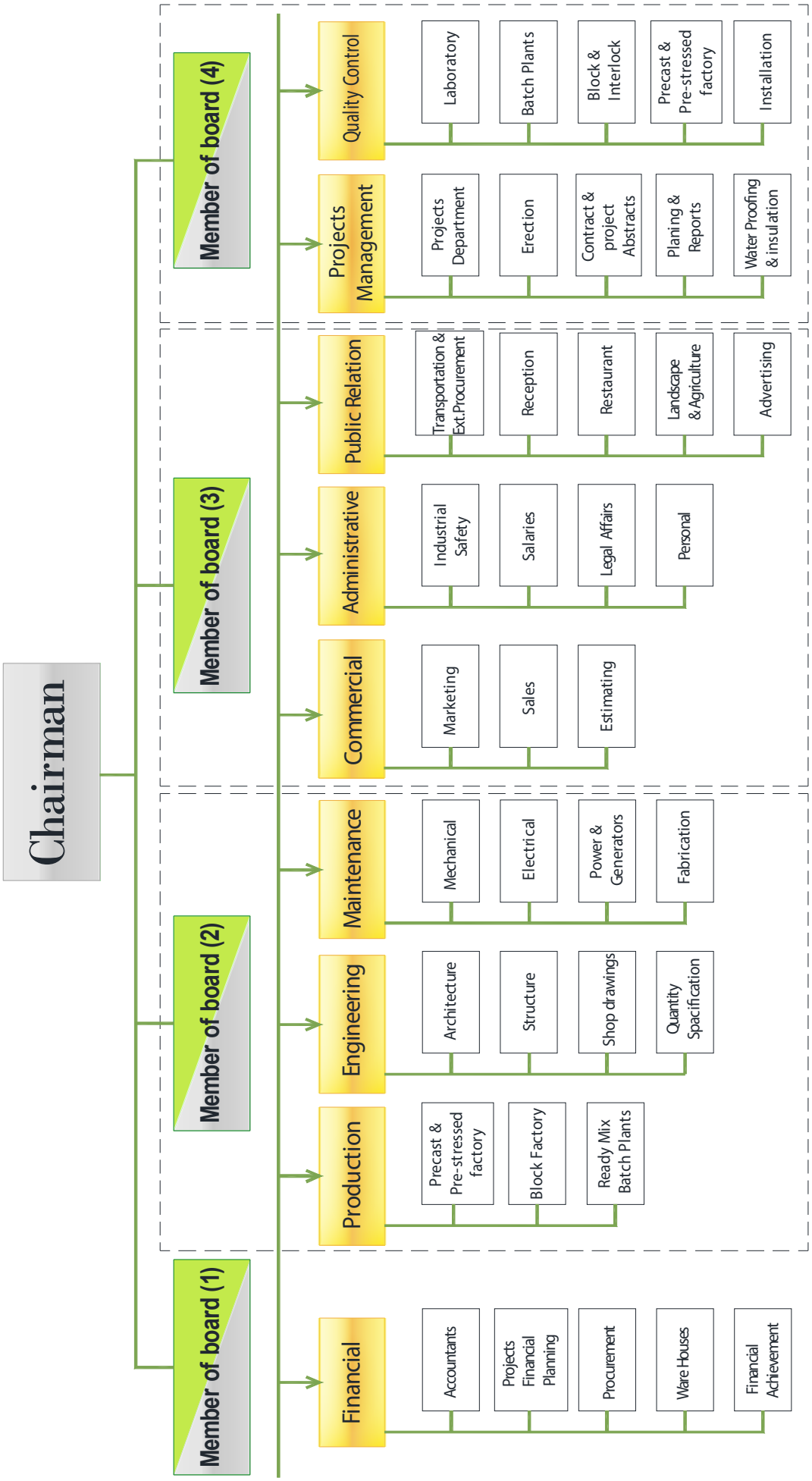
Organization Chart, Quality & Safety System

Modern 4 Concrete Organization Chart



Quality Management Systems

1.Quality Policy Statement :

In Modern Concrete Company (M.C.C) we believe that Quality is the best business plan and the best kind of advertising.

We are committed to achieving the highest quality products to our customers. To meet this objective, we will follow the procedures detailed in the Quality System.

The success of this quality management system is dependent on the support of top management and employee involvement.

The general Manager of Modern Concrete Company (M.C.C) by placing his signature below, is demonstrating his support. Employees at all levels within the organization are charged with the responsibility of following this Quality management System.

This policy shall be reviewed for its continuing suitability to ensure that it remains relevant and effective all times.

2. Quality Objective :

2.1. Introduction :

M.C.C Quality Management System provides the guidance and controls for an effective process management system to achieve the objectives of this system. Quality management is focused not only on product and service quality, but also on the means to achieve it. Quality management, therefore, uses quality assurance and control of processes as well as products to achieve more consistent quality.

2.2. Main Objective for Quality Management System :

Our quality objective are :

- **Customer satisfaction :**

  We will strive to provide our customers with products and services at High quality to ensure customers loyalty and satisfaction.

- **Product quality, delivery and service.**

- **Continuous improvement of the Quality Management System:**

  By reviewing the performance indicators to insure continuing suitability to the custom ersand company and identify and manage working systems that improve the organisation's efficiency and effectiveness.

2.3. References :

PCI MNL-116-99 Structural QC Manual, PCI precast_tolerance-Manual, Egyptian Code.

3. Purpose/Scope :

3.1. Scope.

Every Project have a unique specifications, we are committed to meet these specifications with a high-quality products.

Quality Management Systems

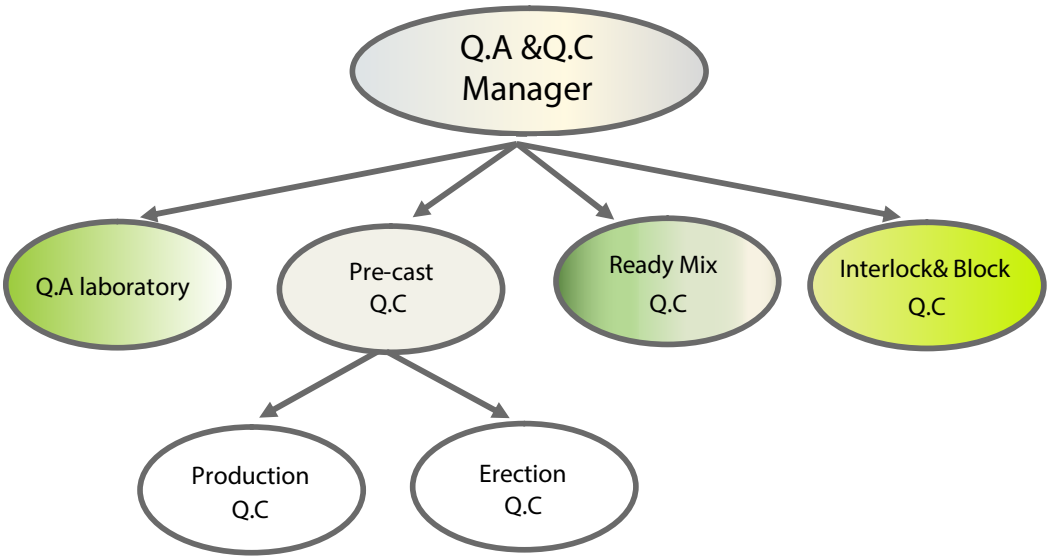
4. Quality Assurance Program.

Quality Assurance as a definition means all the planned and systematic activities implemented within the quality system that can be demonstrated to provide confidence that the product will fulfill requirements for quality. The main components of quality assurance program are the following:

- **Quality system**
- **Production practices**
- **Raw materials and Accessories**
- **Concrete**
- **Reinforcement and Stressing**
- **Quality control**

5. Organization and Responsibility.

51 Organization chart of Q.A\Q.C Staff:



5-2. Job Description:

5-2-1. Q.A\Q.C Manager:

Responsible for the following:

- **Establish a clear Q.A Plan for all processes.**
- **Supervise Q.C procedures.**
- **Review the Quality control procedures.**
- **Establish reports to the top management about the applying of Q.A& Q.C systems.**
- **Understand the specifications of every project and set a unique check steps.**
- **Receive reports from the staff and analysis the collected data.**
- **Communicate with other departments about implementation of Quality Management System.**

Quality Management Systems

5-2-2. Q.A Laboratory:

Responsible for the following:

- **All tests needed to ensure the implementation of Quality Assurance Plan.**
- **Prepare an acceptable mix designs to meet every product specification.**

5-2-3. Pre-cast Q.C:

Covers all quality control procedures in both Production and Erection

5-2-3-1. Production Q.C:

- **Implementation of all Q.C Procedures in production.**
- **Report to Q.A\Q.C Manager.**

5-2-3-2 .Erection Q.C:

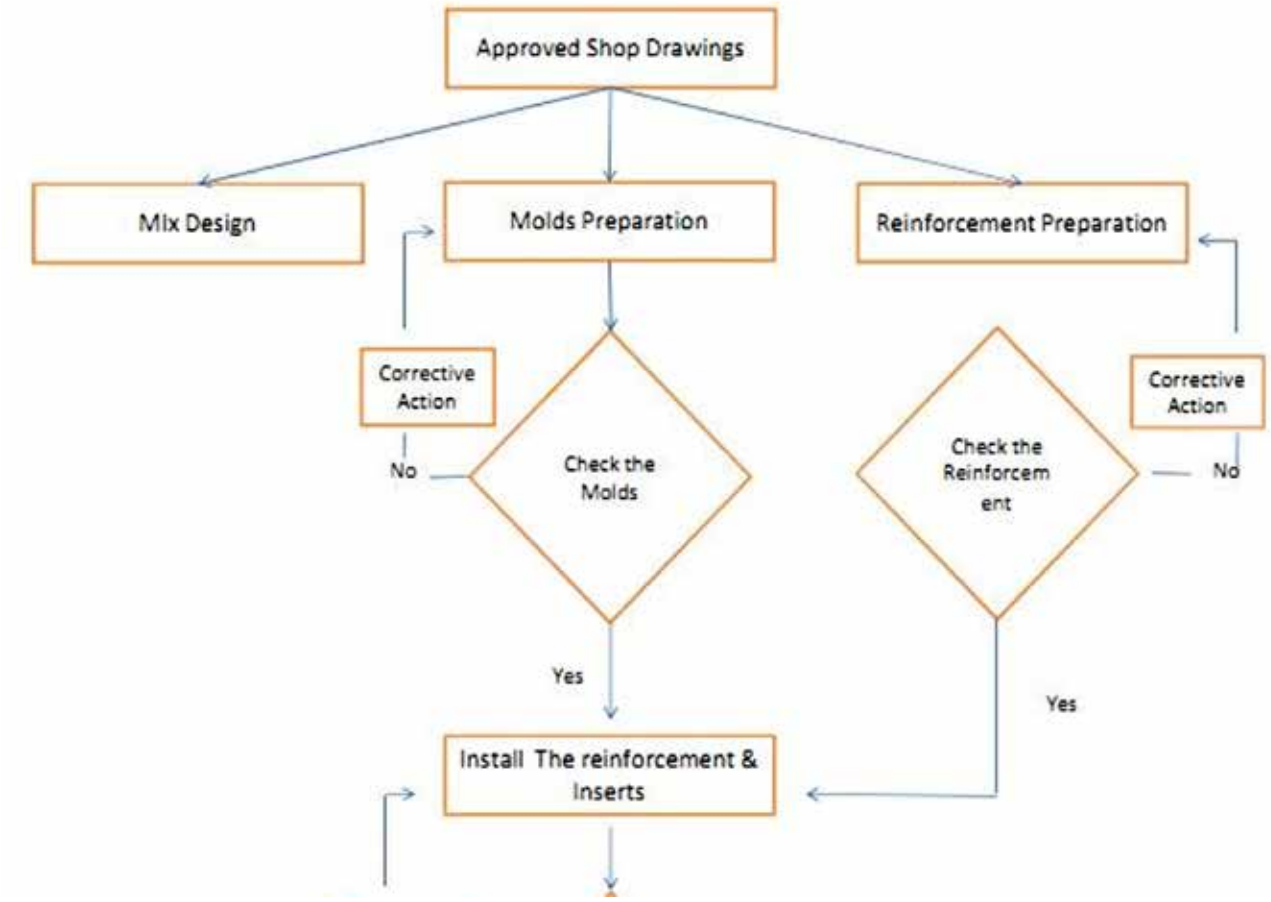
- **Implementation of all Q.C Procedures in erection.**
- **Report to Q.A\Q.C Manager.**

6. QA/QC for Production Cycle:

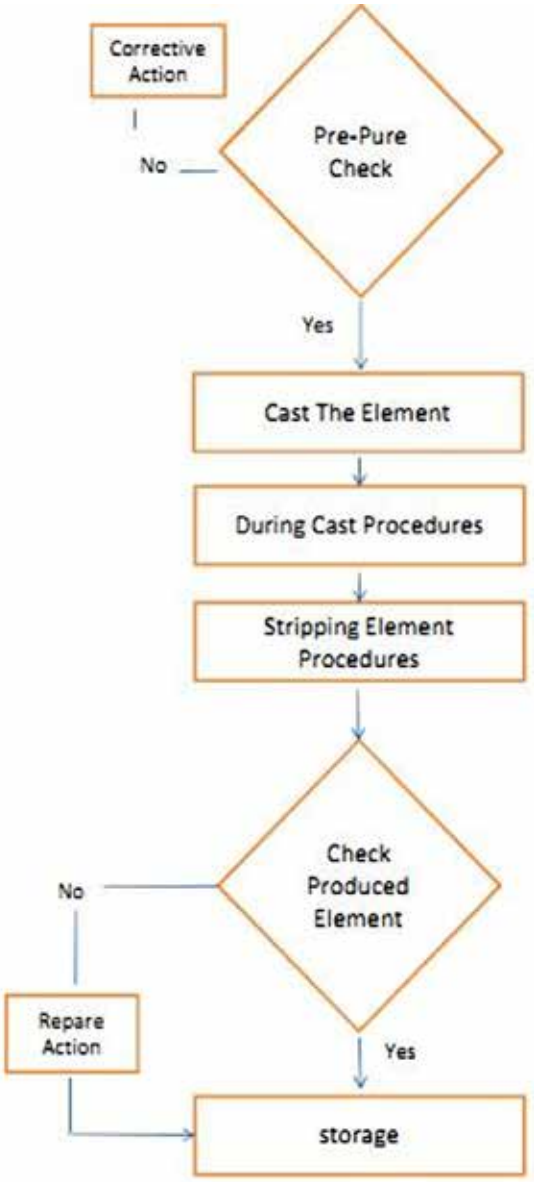
6.1. Introduction:

To produce quality products, the procedures of quality control must be followed and Q.C supervisors to make a daily reports and check every product in every stage of production cycle.

6.2. Flow Chart For QA/QC Production Program :



Quality Management Systems



6.3.QA/QC Procedures for test and Calibration of Equipment:

All Laboratory Equipment, Patching Plant, Scales must be calibrated when there is a reason, or at least annually. Calibration is to be done by certificated laboratory.

QA/QC Manager must keep the Schedule of Calibration dates and Calibration certificates.

6.4.QA/QC procedures For test or Raw Materials:

6.4.1. Test Requirements :

Suppliers of materials shall be required to provide certificated test reports for cement, aggregates, admixtures, reinforcing and pre-stressing steel, and hardware materials, indicating that these materials comply with the applicable ASTM standards.

6.4.2. Tests of raw materials for Concrete :

6.4.2.1.Cement :

The cement used must conform to ASTM C150 with strength class 42.5N &52.5N.

The Suppliers provide Test certification and extra tests for the Grade of cement is to be done when there is a variation in the strength of cement.

Quality Management Systems

6.4.2.2. Aggregate:

Aggregate must conform to ASTM C33 required design specifications .In case the supplier changed, Tests must be done Here a schedule of aggregates test:

Test	ASTM	Routine
Sieve Analysis	ASTM C136	15 days
Sand Equivalent		Every sand batch
Unit weight	ASTM C138	15 days
Soundness of fine aggregate by use of Magnesium Sulphate	(ASTM C-88)- (ASTM C-33) / Sand	Annually
Soundness of coarse aggregate by use of Magnesium Sulphate	(ASTM C88) -(ASTM C33) /Dolomite size	Annually
Soundness of coarse aggregate by use of Magnesium Sulphate	(ASTMC-88) -(ASTM C-33) /Dolomite size#1 1/2	Annually
Soundness of coarse aggregate by use of Magnesium Sulphate	(ASTM C-88)-(ASTM C-33) /Dolomite size#1	Annually
Lightweight particles in fine aggregate	(ASTM C-123), (ASTM C-33)/ Sand	Annually
Lightweight particles in Coarse aggregate	(ASTM C-123), (ASTM C-33)/Dolomite size #2	Annually
Lightweight particles in Coarse aggregate	(ASTM C-123), (ASTM C-33)/ Dolomite size #1 1/2	Annually
Lightweight particles in Coarse aggregate	(ASTM C-123), (ASTM C-33)/ Dolomite size #1	Annually
Potential reactivity of aggregates (chemical method)	(ASTM C-289)/Sand	Annually
Potential reactivity of aggregates (chemical method)	(ASTM C-289)/Dolomite size #1	Annually
Physical analysis of cement	(ES 4756-1)/CEM1 (42.5N)	Annually
Chemical Analysis of Cement /CEM 1/42.5R	1)/CEM1 (42.5N) Cement /CEM 1/42.5R	Annually
Clay lumps and friable particles of aggregate	(ASTM C142), (ASTM C-33)/Dolomite size #2	Annually
Clay lumps and friable particles of aggregate	(ASTM C142), (ASTM C- 33)/ Dolomite size #1 1/2	Annually
Clay lumps and friable particles of aggregate	(ASTM C142), (ASTM C 33)/ Dolomite size #1	Annually
Clay lumps and friable particles of aggregate	(ACI 35 0R), (ASTM C 142), (ASTM C 33)	Annually
Resistance to abrasion of coarse aggregate by the use of lose Angeles Machine	(ASTM C 131), (ASTM C 33)/ Dolomite size #1 1/2	Annually
Resistance to abrasion of coarse aggregate by the use of lose Angeles Machine	(ASTM C 131), (ASTM C 33)/ Dolomite size #1	Annually
Unit weight &voids in aggregate / Dolomite size #2		Annually
Unit weight &voids in aggregate	(ASTM C-39), (ASTM C -33)/ Dolomite size #1 1/2	Annually
Unit weight &voids in aggregate	(ASTM C -29), (ASTM C-33) / Dolomite size#1	Annually

Quality Management Systems

Test	ASTM	Routine
Specific gravity and absorption of fine aggregate	(ASTM C 128), (ASTM C 33) / Sand	Annually
Specifi c gravity and absorption of coarse aggregate	(ASTM C 97 &C 127) / Dolomite size#2	Annually
Specific gravity and absorption of coarse aggregate	(ASTM C 127), (ASTM C 33)/ Dolomite size #1 1/2	Annually
Specific gravity and absorption of coarse aggregate	(ASTM C 127), (ASTM C 33)/ Dolomite size #1	Annually
Specific gravity and absorption of fine aggregate	(ASTM C 128), (ASTM C 33) / Sand	Annually
Organic impurities in fine	(ASTM C-40)/Sand	Annually
aggregate		
Grain size distribution	(ASTM C -33)/the Client ,Dolomite size#2	Annually

6.4.2.3. Water :

Water shall chemically analyze annually to ensure suitability for use in concrete.

6.4.2.4. Admixtures :

All Admixtures used are third generation of super plasticizer Type F or G which conform to the requirement of ASTM C494, ASTM C 1017.

6.4.3. Tests of Steel and pre-stressing strands:

The steel used must be Grade 60 which conforms to ASTM A615.
As PCI Requirements, no need for planet testing if mill certificates and coating reports are supplied and meets the requirements of ACI 318.
Certificates shall be obtained to each size.
If not tests must be done. Or if the client needs extra tests.

6.4.4. Tests of Accessories and main miscellaneous material:

All Accessories, inserts, lifting sockets, widgets, and any other equipment should test by testing agency or other involved in calibration.

6.5. QA/QC Procedures for start-up new project

From the early start of any project these procedures are to be done:

- **Review of S.D to check the details of every element.**
- **Study the specification of the project to meet the client requirements.**
- **Prepare quality control checklists and the appointment of every one in Q.C team.**
- **Study the concrete specifications to prepare the suitable mix designs.**
- **Prepare the project documents which include but not limited to:**
- **Tests Plan.**
- **Inspection requests (in factory, in site).**

Quality Management Systems

6.6. QA/QC Procedures during production

These procedures are divided into three stages:

6.6.1 Pre-pour procedures:

- **Check the mold (cleanness, mold agent application, special inserts, external vibrates if exists).**
- **Check the reinforcement.**
- **Check the stressing of strands when pre-stressed element.**
- **Every element has a checklist filled by Q.C in spector who gives the permission to cast after check.**

6.6.2 During cast procedures:

- **Check the quality of concrete and the process of casting and vibration.**
- **Preparing of concrete specimens for strength tests and keep it in standard conditions.**

6.6.3 After cast procedures:

- **Monitoring concrete curing (start time, duration, temperatures).**
- **Check needed strength for release stands and stripping.**
- **Inspect the elements after stripping to detect any defect.**
- **In case the element need repair, check the procedures of repair and materials used.**
- **Check the element after repairs are done.**
- **Mark the element as shown in S.D.**
- **Inspect finished products for conformance with specifications as detailed in S.D.**

Quality Management Systems

• General observation of storage area for proper blocking, methods for preventing of chipping, warping, cracking, contamination and blocking stains, or any other items that may adversely affect the quality of product or the safety of persons or elements.

• Disposition of nonconformance products.

7. Q.A/Q.C for Erection Cycle:

7.1. Introduction:

It is important to have quality control procedures for installing precast elements to avoid any defect that may affect the work or the suitability of the construction.

In fact these quality control procedures is about collecting data from the site and control the flow chart of this data to provide this data to the persons who can analyze it and forward it in the right direction.

7.2. Q.C Procedures for erection

These procedures are divided to two stages:

7.2.1 at factory

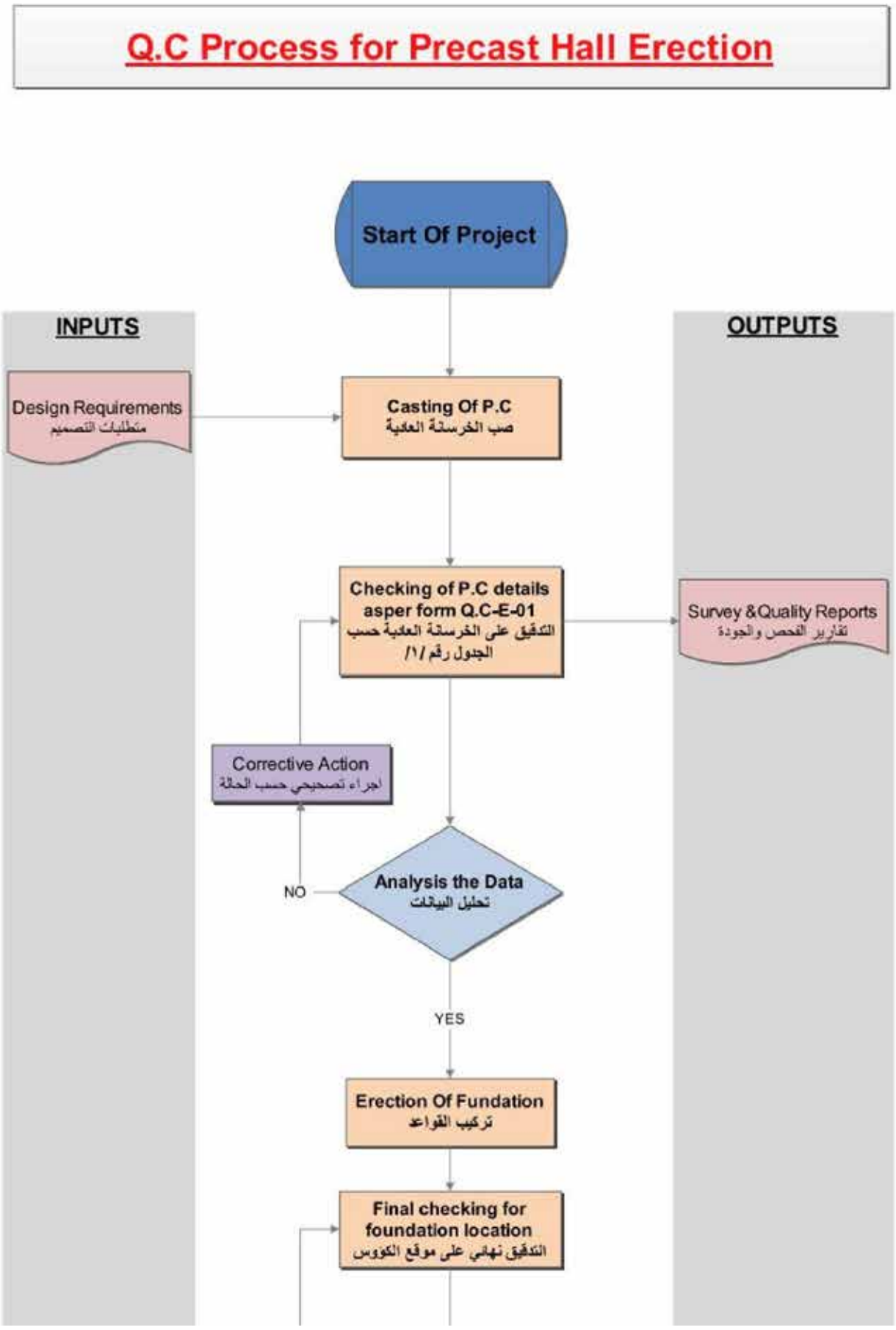
- **Review loading program daily**
- **Check the loads (total weight, heights, width) for transportation**
- **Final check for the elements.**

7.2.2 at site

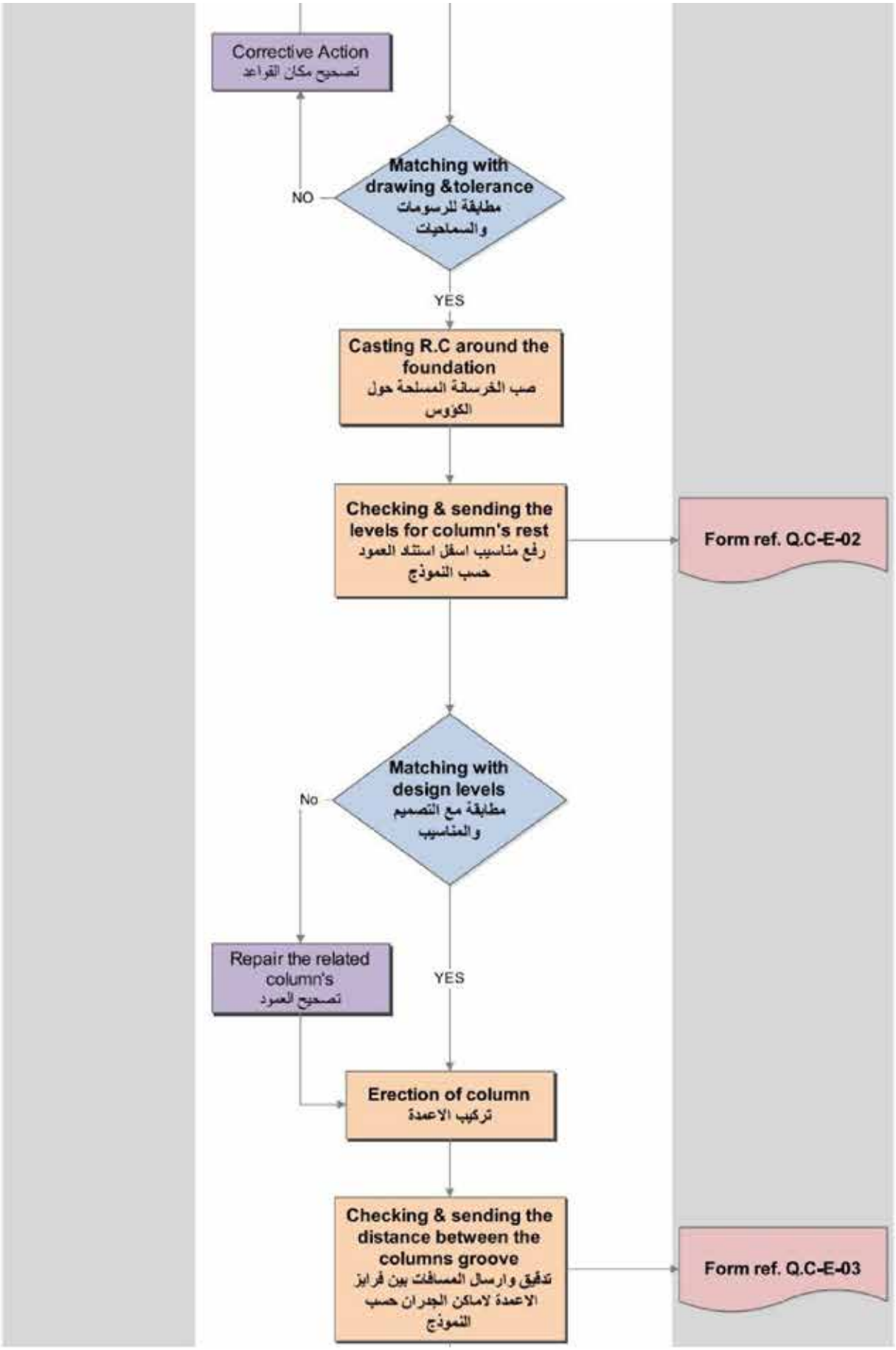
- **Check the suitability of site for erection process.**
- **Check all measures and levels prior to erection.**
- **Check the clearance of erected elements.**
- **Prepare all inspections forms needed during erection**
- **Check all erected elements for any defect during transportation and erection process.**
- **Prepare suitable method for repairs if needed.**

Here a flow chart to explain the sequences of inspection during every stage of erection.

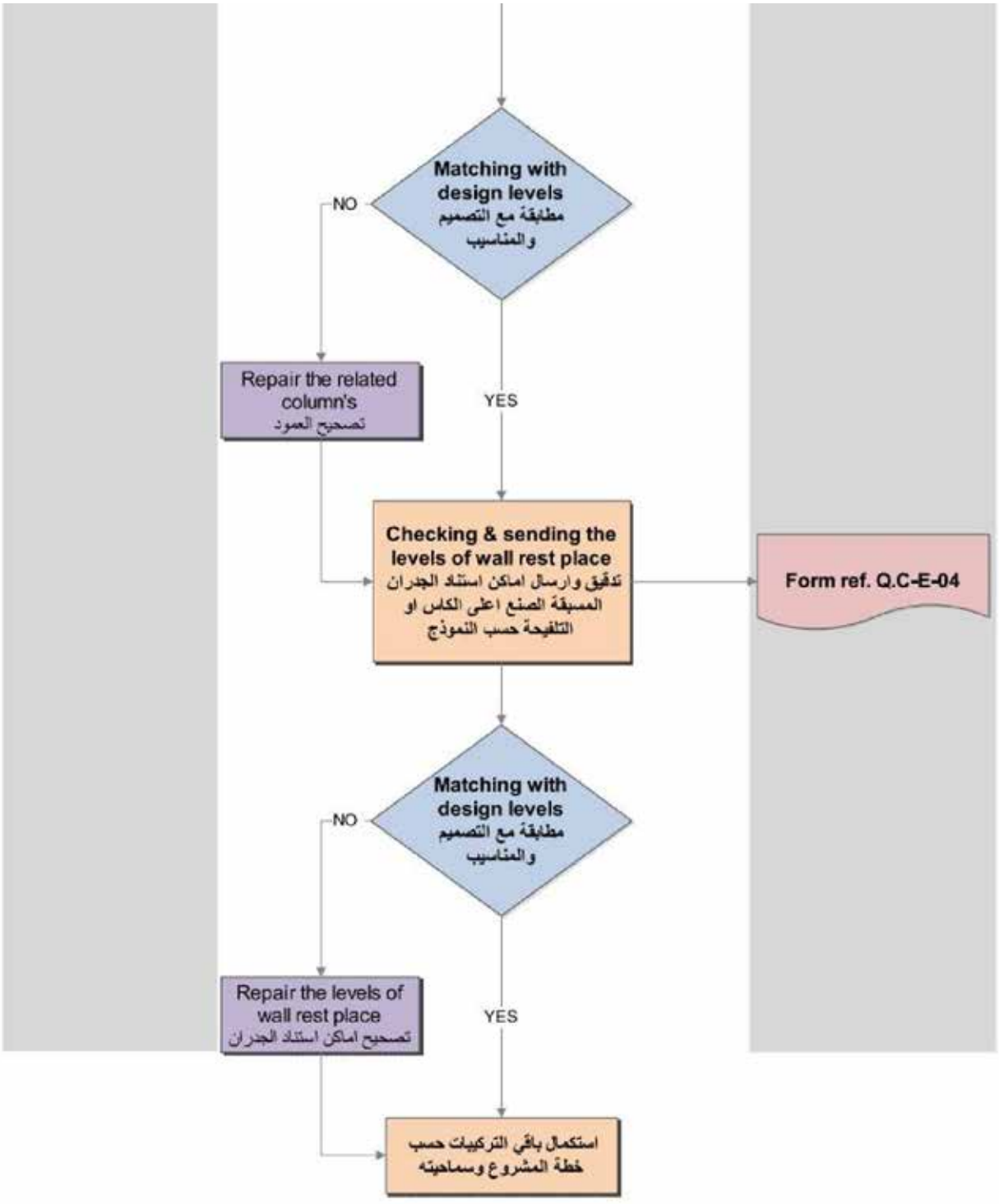
Quality Management Systems



Quality Management Systems



Quality Management Systems



8.Q.A/Q.C Record keeping

In order to establish evidence of proper manufacture and conformance with M.C.C standards and project specifications, there must be a record of all Quality Assurance and Quality Control documents as explained above.
This record must contain all the documents for every project.

Safty

9.1 OBJECTIVE:

To ensure the safe working conditions in the factories and locations, proper remedial actions in case of any accident/fire hazards and to keep the safe conditions of factory and products.

9.2 SCOPE:

This is applicable to all areas of the factory.

9.3 RESPONSIBILITY:

1. General Manager.
2. Production Manager.
3. Section Heads.
4. Maintenance Engineer.

9.4 PROCESS FLOW:

9.4.1 All employees working in the shop floor and yard shall wear safety equipments and uniform provided.

9.4.2 Eating or drinking shall not be allowed in the work areas.

9.4.3 To prevent fire hazards no smoking is allowed at the hazardous areas and warning notices shall be displayed at those locations.

9.4.4 Selected people shall be trained for operating the fire fighting equipments.

9.4.5 A list of fire extinguishers, water sprinklers and smoke detectors and alarms placed at various locations shall be maintained and contracts shall be established with reliable agents for periodic check and refilling of fire extinguishers.

9.4.6 Shop floors shall be maintained clean and tidy.

9.4.8 All the scraps and wastes during production shall be collected and dumped in the waste baskets.

9.4.8 To prevent any hazards, all the rubbish shall be dumped to the container for rubbish.

9.4.9 The safety instructions & precautions should be well known to all the workers. A sign boards explaining the importance of the safety should be displayed everywhere to get the worker awarded about safety.

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Construction Experience

Samples Of Our Projects.

S.N	Owner	Name Of Project	Location Of Project	Consultant	Qty.	Completion Date Of Project	Type Of Project
1	Bidco Spinning	Bidco Spinning Factory / 2 Halls	10th of Ramadan	Howeedy Consultant	23,068.00	2015	Precast Industrial Hall
2	Africano Factory	Bidco Spinning Factory / 2 Halls	10th of Ramadan	Howeedy Consultant	1,523.00	2013	Precast Industrial Hall
3	Spintex Group	Spintex Factory	10th of Ramadan	kandil - Consultant office	16,332.00	2012	Precast Industrial Hall
4	Emissa Dineem Factory	Diynem	Bani sowif	kandil - Consultant office	11,702.00	2013	Precast Industrial Hall & Fence
5	Line Tex Factory	Line Tex	10th of Ramadan	kandil - Consultant office	3,172.00	2013	Precast Industrial Hall
6	Canadian Sponge Compan	Canadian Sponge	Alobour City	M.A Consultant	5,315.00	2012	Precast Industrial Hall
7	Tiba Co.	Telal Al-Almeen	Northen Coast	OKO PLAN	170.00	2014	Precast Industrial Store
8	Cairo Airport Internati onal.	Cairo Airport International.	Cairo - Airport International.	ECE Consultants	7,593	2013	Hollow Core Precast Slabs
9	Nour Tex Co.	Spinning and weaving Hall	Sadat New Industrial City	kandil - Consultant office	29,946	2012	Precast Industrial Hall
10	Nour Tex Co.	Laundry Hall	Sadat New Industrial City	kandil - Consultant office	17,590	2012	Precast Industrial Hall
11	Nour Tex Co.	Cotton Store	Sadat New Industrial City	kandil - Consultant office	6,800	2012	Precast Industrial Hall
12	Farida Resort Co.	Farida Resort	Ain-Sokhna	Raafat.Miller. Consulting (RMC)	3,062 L.M	2014	Precast Fence
13	Emmar Misr	Uptown Cairo Project	Cairo - Mokattam	Turner Consulting & Dr. Ahmed A. W. Consulting	2,238 L.M	2014	Precast Fence
14	Palm Hills	Palm Hills Fence	6th of October village	Dr. Ahmed Abdel Warith Consulting (A.A.W)	1,332 L.M	2014	Precast Fence
15	Palm Hills Develop ments	Hacienda Bay Fence	North Coast	Signature	2,000 L.M	2014	Precast Fence

BIDCO SPINNING FACTORY

General Data

Project Name : Bidco Spinning Factory / 2 Halls
Type of Project : Precast Industrial Hall
Owner: Bidco Spinning
Consultant : HOWEEDY
Co-Partner :
Location : 10th of Ramadan

Total Area	Hall 1 (12767 m2).			
	Hall 2 (10301 m2).			
Project Duration	Contract Hall1	120 days	Actual Hall1	73 days
	Contract Hall 2	120 days	Actual Hall2	____
	Year of constraction		2015	

Technical Data

Span	The span is 30.80 m
Total Height	The total height is 11.30 m
Clear Height	The clear height is 6.50 m

Structural Elements

- Precast Foundations
- Precast Columns
- Precast Walls
- Precast Rafter Beams
- Precast Gutter Beams
- Precast Hollow Core Slabs

Project's Main Photo

AFRICANO FACTORY

General Data

Project Name : Africano	Total Area	(1523 m2)		
Type of Project : Precast Industrial Hall				
Owner: Africano Factory	Project Duration	Contract	120 days	Actual
Consultant :				
Location : 10th of Ramadan		Year of constraction		2013

Technical Data

Span	The span is 22.94 m
Total Height	The total height is 25.40 m
Clear Height	The clear height is 18.00 m

Structural Elements

- Precast Foundations
- Precast Columns
- Precast Walls
- Precast Rafter Beams
- Precast Gutter Beams
- Precast Hollow Core Slabs
- Precast Beams
- Precast Stairs

Project's Main Photo

SPINTEX GROUP

General Data

Project Name : Spintex Factory	Total Area	Hall	(11432 m2)	
Type of Project : Precast Industrial Hall		Store 1	(2556 m2)	
Owner: Spintex Group		Store 2	(2344 m2)	
Consultant :	Project Duration	Contract	120 days	Actual
Location : 10th of Ramadan		Year of constraction		2012

Technical Data

Span	The span is 25.30 m
Total Height	The total height is 8.70 m
Clear Height	The clear height is 6.50 m

Structural Elements

- Precast Foundations
- Precast Columns
- Precast Walls
- Precast Rafter Beams
- Precast Gutter Beams
- Precast Hollow Core Slabs
- Precast Beams
- Precast TT
- Precast Tunnel

Project's Main Photo

EMISSA DINEEM

General Data

Project Name : Emissa Dineem
Type of Project : Precast Industrial Hall & Fence
Owner: Emissa Dineem Factory
Consultant :
Location : Bani sowif

Total Area	Hall	(11432 m2)
Total Length	Fence	(270 m)

Project Duration	Contract	90 days	Actual
	Year of constraction		2013

Technical Data

Hall

Span	The span is 30.80 m
Total Height	The total height is 11.30 m
Clear Height	The clear height is 6.50 m

Fence

Wall Lenght	The Wall length is 5.80 m
Clear Height	The clear height is 2.85 m

Structural Elements

- Precast Foundations
- Precast Columns
- Precast Walls
- Precast Rafter Beams
- Precast Gutter Beams
- Precast Hollow Core Slabs
- Precast Beams

Project's Main Photo

LINE TEX

General Data

Project Name : Line Tex
Type of Project : Precast Industrial Hall
Owner: Line Tex Factory
Consultant :
Location : 10th of Ramadan

Total Area	Hall / 2 Floor	(3172 m2)	
Project Duration	Contract	120 days	Actual
	Year of constraction		2013

Technical Data

Span	The span is 10.05 m
Total Height	The total height is 14.20 m
Clear Height	The clear height is 12.70 m

Structural Elements

- Precast Foundations
- Precast Columns
- Precast Walls
- Precast Beams
- Precast Hollow Core Slabs

Project's Main Photo

CANADIAN SPONGE CO.

General Data

Project Name : Canadian Sponge
Type of Project : Precast Industrial Hall
Owner: Canadian Sponge Company
Consultant :
Location : Alobour City

Total Area	Hall	(5315 m2)

Project Duration	Contract	90 days	Actual
	Year of constraction		2013

Technical Data

Span	The span is 28.30 m /19.80 m
Total Height	The total height is 12.30 m
Clear Height	The clear height is 7.48 m

Structural Elements

- Precast Foundations
- Precast Columns
- Precast Walls
- Precast Rafter Beams
- Precast Gutter Beams
- Precast Hollow Core Slabs

Project's Main Photo

TELAL AL-ALMEEN

General Data

Project Name : Telal Al-Almeen

Type of Project : Precast Industrial Store

Owner: Tiba Co.

Consultant : OKO PLAN

Location : Northen Coast

Total Area	Hall	(170 m2)

Project Duration	Contract	28 days	Actual	
	Year of constraction		2014	

Technical Data

Span	The span is 8.20 m
Total Height	The total height is 3.50 m
Clear Height	The clear height is 2.70 m

Structural Elements

- Precast Corner Walls
- Precast Walls

Project's Main Photo

ARAB CONTRACTORS (A.C.) REST HOUSE

General Data

Project Name : A.C. Rest House	Total Area	386		193m²/each	
Type of Project : Administration Building Precast	Number of Floors	2 Floors			
Owner: Arab Contractors					
Consultant : -----	Project Duration	Contract	45 days	Actual	14 days
Co-Partner : -----		Year of constraction		2013	
Location : 10th of Ramadan					

Technical Data

Load Bearing Panels & Hollow Core Slabs

Span	The span is Mix. 8.0 m
Total Height	The total height is 6.80 m
Clear Height	The clear height is 3.40 m

Structural Elements

- Precast Hollow Core Slabs
- Cast on site foundation
- Load Bearing Panels
- Precast Walls
- Stair Core Precast

Project's Main Photo

NOUR TEXTILE

General Data

Project Name : Nour Textile Type of Project : Industrial Building Precast Owner: Al-Sharabati Group Consultant : G.K. Consultant Office Co-Partner : ----- Location : AlSadat-City	Total Area	12500 m2 2 Floors		193m2/each
	Project Duration	Contract	7 months	Actual 6 months
		Year of constraction		2012-2013

Technical Data

Span	20 - 25 m
Total Height	9 - 12 m
Clear Height	6.5 m

Structural Elements
Precast Foundation
Precast Column
Precast Walls
Precast Rafter Beams
Precast Cutter Beams
Precast Hollow Core Slabs

Project's Main Photo

CAIRO AIRPORT INTERNATIONAL

General Data

Project Name : Cairo Airport International.	Total Area	Hall	(7592.99 m2)	
Type of Project : Hollow Core Precast Slabs				
Owner: Cairo Airport International.				
Consultant : Rowad Modern Engineering / RME	Project Duration	Contract	120 days	Actual
Location : Cairo - Airport International.		Year of constraction		2013

Technical Data

Span	The span is 10.15 m
Structural Elements	Precast Hollow Core Slabs

Project's Main Photo

CHIPCY FACTORY

General Data

Project Name :Chipcy Factory Type of Project : Double Tee Slabs & Cladding Panels Owner: Chipcy Group Consultant :Zanaty Consultant Office Main Construction: Gama Construction Location :Al Obour -City	Total Area	1200 m^2			
	Project Duration	Contract	60 days	Actual	12 days
		Year of constraction		2014	

Technical Data

TT Span	The span is 8.00 m
Total Height	210 cm TT | 75 cm
Clear Height	The clear height is 9.00 m

Structural Elements	
	Double Tee Slabs 75/20 ×210 cm
	Precast Walls
	Live Load on TT = 1.6 Tons
	Cast on Site columns and Beam

Project's Main Photo

FARIDA RESORT

General Data

Project Name : Farida Resort
Type of Project : Precast Fence
Owner: Farida Resort Co.
Consultant : raafat.miller
Location : Ain-Sokhna

Total Length	Main	(613 L.M)	3062 L.M
	Side	(2,449 L.M)	
Project Duration	Contract	90 days	Actual
	Year of constraction		2014

Technical Data

Length of wall	Main Fence / 6.00 L.M Side Fence / 5.80 L.M
Clear Height of Fence	Main Fence / 250-257 cm Side Fence / 280 cm

Structural Elements

- Precast Wall Foundations
- Precast Solid Panels
- Precast Foundations
- Precast Columns
- Precast Hollow Core Panels

Project's Main Photo




UPTOWN CAIRO PROJECT (EMMAR MISR)

General Data

Project Name : Uptown Cairo Project
Type of Project : Precast Fence
Owner: Emmar Misr
Consultant : A.A.W
Location :Cairo - Mokattam

Total Length	(2,238 L.M)			
Project Duration	Contract	130 days	Actual	
	Year of constraction		2014	

Technical Data

Length of wall — The length of wall is 3.50 L.M

Clear Height of Fence — The Height is 330 cm

Structural Elements

- Precast Wall Foundations
- Precast Solid Panels

Project's Main Photo

TYPES OF BOUNDARY FENCES

General Data

Project Name : Varies

Type of Project :

Owner:

Consultant :

Co-Partner :

Location :

Total Area

Project Duration

Contract	Actual
Year of constraction	

Technical Data

1. Solid Panels With Logo.
2. Hollow Core Slabs Fence
3. Temporary Boundary Fence

Structural Elements

- Precast Foundation
- Precast Column
- Precast Walls
- Hollow Core Fence

Project's Main Photo




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Resources (Equipments)

MACHINES AND EQUIPMENT'S

ELEMATIC

Precast Batch Plant, Hollow Core System, Concrete Distribution System, Double Tee Mould, Tilting Tables & Battery Moulds.

Transportation and distribution

Casting

Curing

Battery molds/Tilting tables

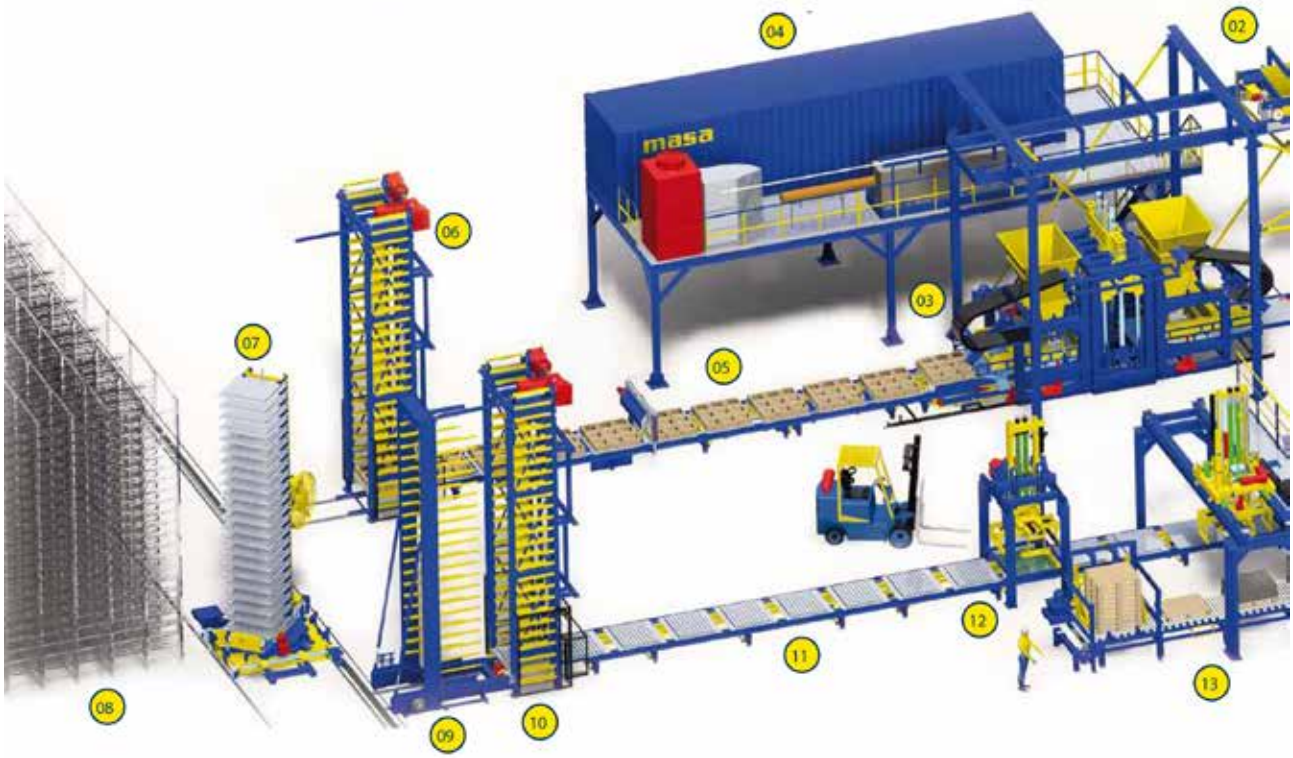
Cutting

Bed preparation

MASA

masa

Concrete Block and Interlock Production Factory.



MISIA
Over head Crane

Moving Equipment and Heavy Machinery

Ready Mix Concrete, Transit Mixer, Pumps, Batch Plants (Schwing, Mercedes, intermix, CaterPillar)

Truck_Concrete Pump

Mercedes Concrete Mixers

Intermix Concrete Mixers

Caterpillar Loader

forklift

Crane

Paul Stressing Machines

Hosken Steel Sheets

Mercedes-Benz Trailer

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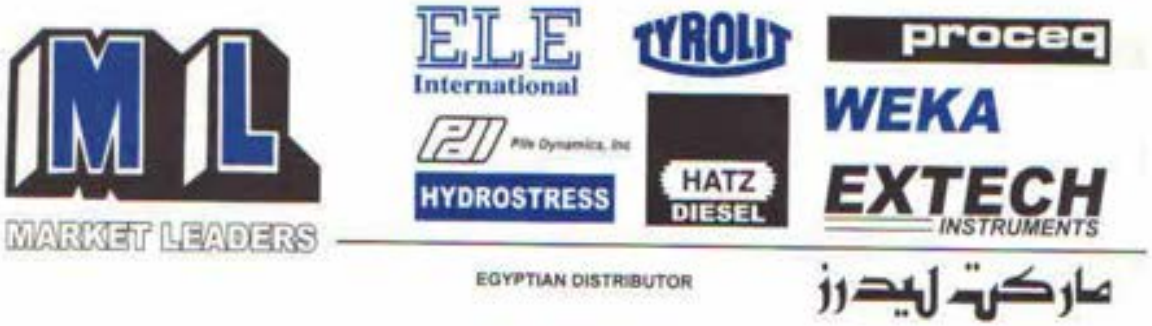
Testing & Testing Certificate



Modern Concrete Co. batching plant Calibration Certificate No. B11 /2015

Applicant : Modern Concrete Co. Sadat City
Location : Calibration for Masa Bricks Factory
Calibration Date : 17/1/ 2015 - Next Calibration 17/1/2016
Plant manufacture : Masa Bricks Factory

Calibration capacity of Aggregates	: 2945 Kg	Division 1 Kg
Calibration capacity of Color	: 40 Kg	Division 0.01 Kg
Calibration capacity of Cement 1	: 200 Kg	Division 1 Kg
Calibration capacity of Cement 2	: 500 Kg	Division 1 Kg

A- Aggregate Me somatic DK910 Division 1Kg

Additional applied load Kg	Nominal applied load Kg	Scale reading Kg	Error %
One Person	99	99	
100	199	199	0.00
100	299	299	0.00
100	399	398	0.25
100	499	499	0.00
100	599	599	0.00
100	699	699	0.00
100	799	799	0.00
100	899	898	0.11
100	999	998	0.10
100	1099	1097	0.18
100	1199	1197	0.17
100	1299	1298	0.08
100	1399	1398	0.07
100	1499	1498	0.07

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CAIRO 11331 - EGYPT,
TEL. 202 483 0763 FAX. 202 258 7616

Pa/12

14, El-Makrizi St., Manchiet El-Bakry
Cairo 11331 - Egypt
Tel. / Fax: 02 24530763 - 24530917 Mob.: 01001533403
E-mail: mleaders2000@yahoo.com

١٤ شارع المقريزى - منشية البكرى - القاهرة - ١١٣٣١
تليفاكس: ٢٤٥٣٠٩١٧ - ٢٤٥٣٠٧٦٣ موبايل: ٠١٠٠١٥٣٣٤٠٣
ب . ض: ١٠٠/٣٣٣/٣٥٤ مصر الجديدة ثان
سجل تجارى: ٢٥٧٨٢١

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EGYPTIAN DISTRIBUTOR

ماركت ليدرز

CALIBRATION CERTEFICATE No. 49/C/2014

Customer Name : Al hadisa ready mix.
Al sadat city.

MARKET LEADERS
14 EL.MAKRIZI STR., MANCHIET EL BAKRY
CAIRO 11331 - EGYPT.
TEL. 20 2 453 0763 FAX. 20 2 258 7616

Machine Calibration date : 4/6/2014 Next Calibration due: 4/6/2015
Machine type : ADR 2000, Compression M/C 2000 KN
Machine Serial No. : 1796-8-2218 ADR head S.N. 1886-1-3622
Readability ® : 0.1 KN Calibration measuring range: 0:1700 KN

Load cell Frame serial No: C140-08*04*02, 3000 KN capacity Class 0.5
Load cell transducer No : C139*5*2, Digital Resolution 0.02 KN
Load cell Last Calibration : 9/9/2013 , Next Calibration due 9/11/ 2015

M/C Read Value Ton	Load Cell reading KN			Average Read Values Ton	Machine Percentage Error q%
	Cycle1 Ton	Cycle2 Ton	Cycle3 Ton		
0	0	0	0		
20.000	19.88	19.69	19.87	19.81	0.96
40.000	40.38	40.26	40.22	40.29	-0.71
60.000	60.47	60.27	60.57	60.44	-0.72
80.000	80.48	80.86	80.76	80.70	-0.87
100.000	100.79	100.87	100.73	100.79	-0.79
120.000	120.63	120.89	120.71	120.75	-0.62
140.000	141.26	141.37	141.33	141.32	-0.93
160.000	161.80	161.12	161.37	161.43	-0.89
170.000	171.89	171.21	171.43	171.51	-0.88

Ambient Temperature: 25.0 °C.

We certify that this calibration and certificate is accurate, correct and according to ISO 7500-1 and to our best Knowledge.

Calibrated by Eng. Ali elzoughby + Eng. Ahmed hamdy

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تليفاكس : ٢٤٥٣٠٩١٧ - ٢٤٥٣٠٧٦٣ موبايل : ٠١٠٠١٥٣٣٤٠٣
ب . ض : ١٠٠/٣٣٣/٣٥٤ مصر الجديدة ثان
سجل تجارى : ٢٥٧٨٢٤

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LAFARGE CEMENT Egypt

Cement Quality Certificate

Cement Type: Portland Cement
Strength Class: 42,5 N
Complies With: BS EN197-1:2000
ES 4756-1:2009

Dispatch Date: 12-May-14

Standard Composition Requirements

Chemical Composition		Test Method BS EN 196-2:2005			
		Results		Standard Requirements	
Silicon Dioxide	SiO_2	19.68	%		
Aluminium Trioxide	Al_2O_3	4.42	%		
Ferric Oxide	Fe_2O_3	3.76	%		
Calcium Oxide	CaO	62.59	%		
Magnesium Oxide	MgO	1.74	%		
Sulphate	SO_3	2.93	%	3.50%	Max.
Potassium Oxide	K_2O	0.42	%		
Sodium Oxide	Na_2O	0.31	%		
Chloride	Cl	0.04	%	0.10%	Max.
Loss On Ignition	LOI	3.00	%	5.00%	Max.
Insoluble Residue	IR	0.42	%	5.00%	Max.
Tricalcium Aluminates	C_3A	5.37	%		

Physical and Mechanical Properties

Compressive Strength	Test Method BS EN 196-1:2005		
	Results	Standard Requirements	
2 days (N/mm²)	21.0	10.0 N/mm²	Min.
28 days (N/mm²)	-	42.5 N/mm²	Min.

Setting Time	Test Method BS EN 196-3:2005		
	Results	Standard Requirements	
Initial Time (minutes)	165	60 minutes	Min.
Final Time (minutes)	250	-	
Standard Consistency (%)	24.60 %	-	

Soundness	Test Method BS EN 196-3:2005		
	Results	Standard Requirements	
Expansion (mm)	1.00	10.0 mm	Max.

Fineness			
	Results	Standard Requirements	
Specific Surface	3200	-	

LAFARGE CEMENT EGYPT S.A.E

Approved by

Fouad Ahmed Kamil

Quality Works Director

LAFARGE CEMENT Egypt Laboratories

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References.

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مدينة السادات - مصر
تليفون : ٩/٩١٢١٧٦٨ (٢٠٤٨)
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