

شركة مصنع اوراك
ORAK Factory Co.
لإنتاج للأجزاء الخرسانية الجاهزة





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INTRODUCTION

By the grace of god, our company started to produce precast floor panels in our first fully automated factory in Riyadh at 2014 under the strategic plan for the company to build a number of factories for the production of concrete prefab building components (floors - walls - stairs) to meet the growing demand for housing in the kingdom as well as to reduce costs and speed of delivery while maintaining quality and durability. ORAK precast company provide you with the reinforced concrete prefabricated floor manufactured by world - class automated factory in Riyadh that can be transported and installed anywhere. The company's engineering office and from your original building designs defines your needs of precast floor panels.

General Manager

D.ENG: Mohammad ALSohime



VISION AND MISSION

VISION



To Achieve leadership in the construction industry, precast concrete products and advanced engineering solutions.

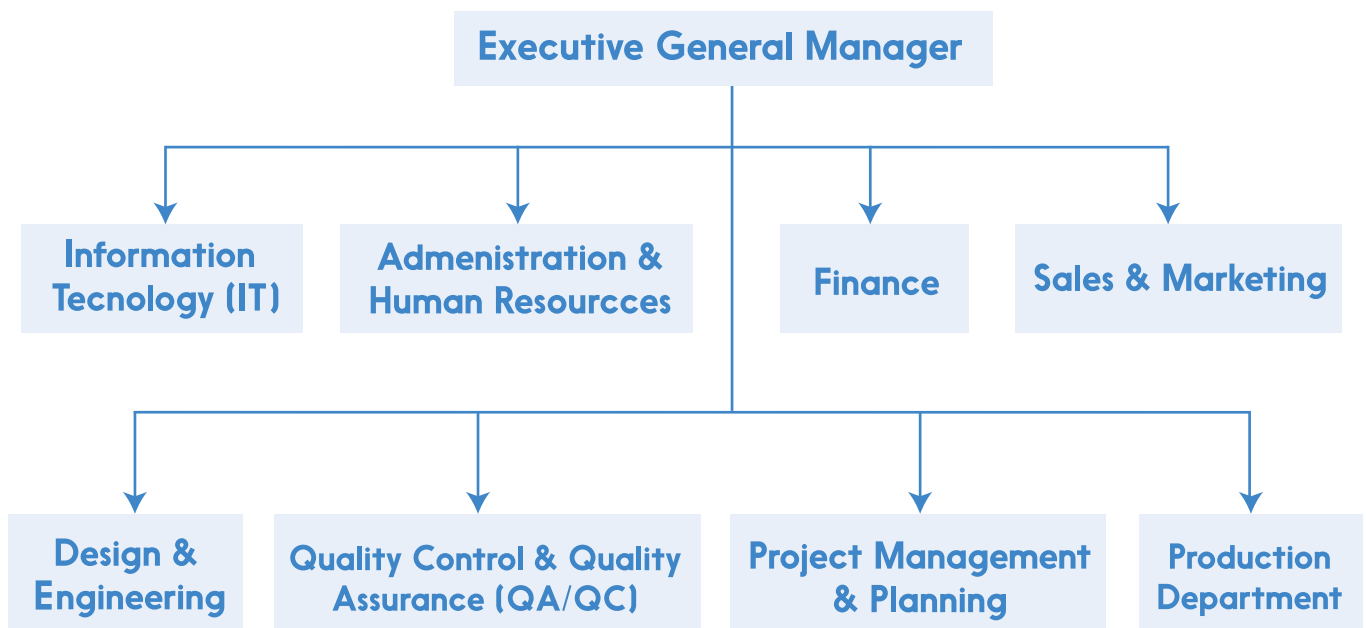
MISSION



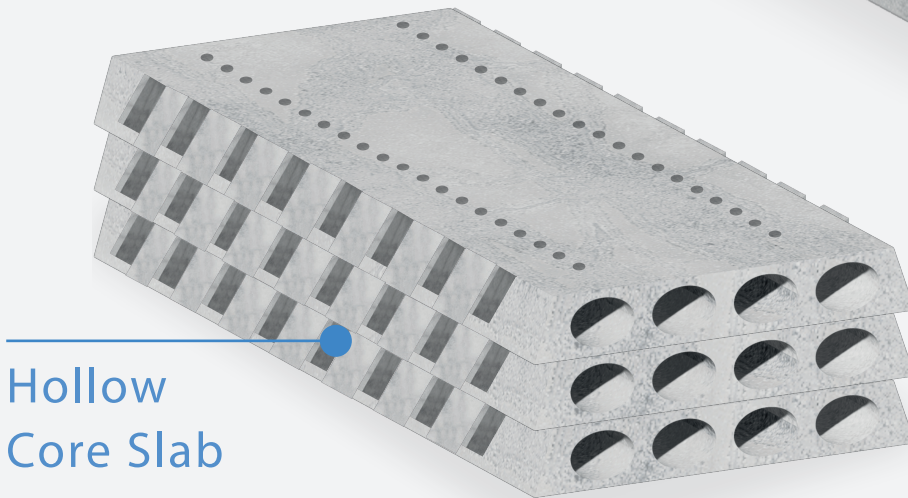
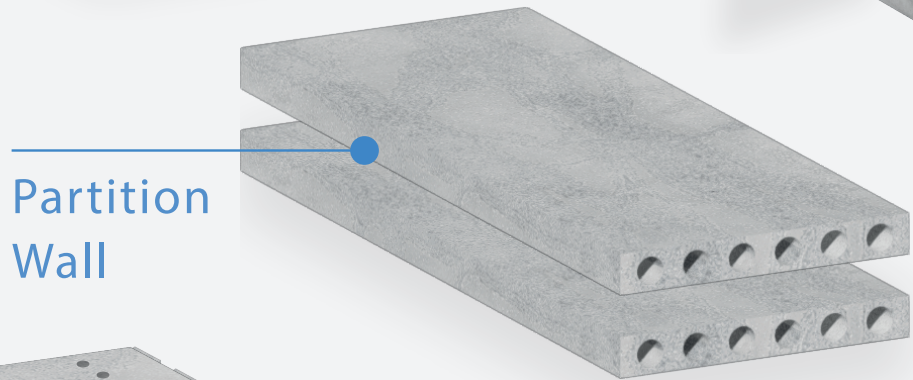
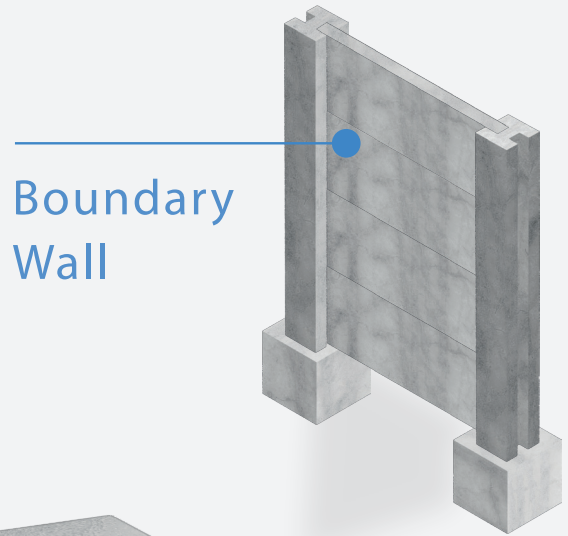
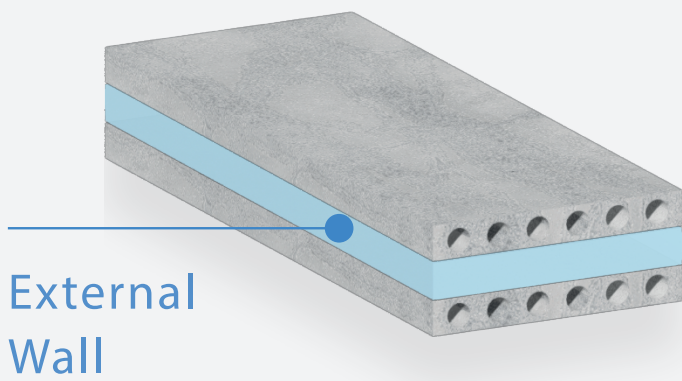
Technologies transfer and development of manufactured precast parts in collaboration with our partners Coote Engineering from UK & a culture of precast concrete for housing in the kingdom.



ORGANIZATION CHART

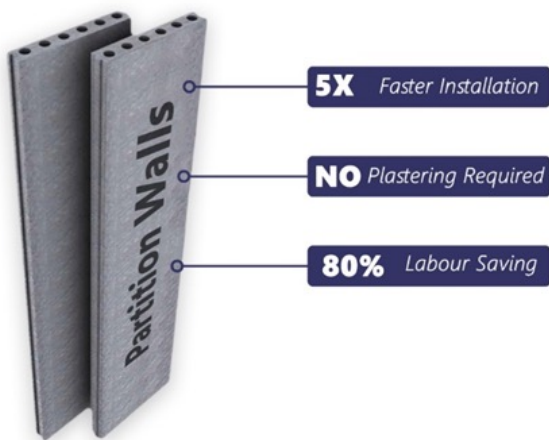


PRODUCTS AND SERVICES



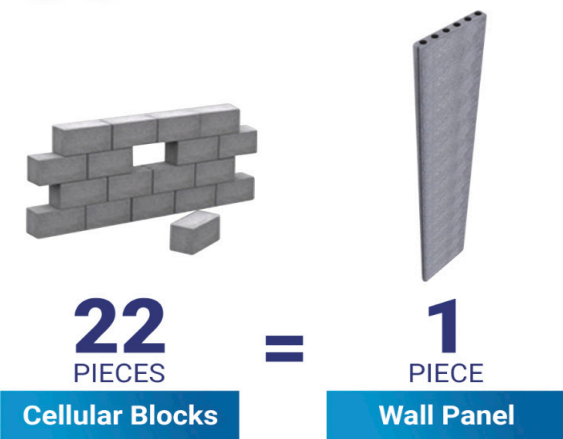
LIGHT WEIGHT CONCRETE PARTITION WALL

The ORAK Hollow core non loading bearing wall is a compact, highly automated production line that is based on a stationary extruder and is designed to produce of max 4.5 m long 7.5 cm - 9 cm - 15 cm thick Hollow core, non-load-bearing wall elements. The elements are usually made of lightweight aggregate concrete and are used in all kind of housing applications; for example, internal walls that require good moisture and sound insulation in bathrooms, kitchens, bedrooms, offices, hotels, etc., and even the inner leafs of outer wall are typical applications for the ORAK walls. In addition, they have also been used as factory walls, boundary walls, and fences, even made of colored concrete with corrugated surfaces can be found. The ORAK line is a unique, state.of the art production system for manufacturing of lightweight, hollow core, panels.



DIMENSIONS

- 1000 mm to 4500 mm long.
- 7.5 cm - 9 cm - 15 cm thick.
- 600 mm wide as standard.
- Have 5 - 8 hollows depending on the thickness with 4 cm - 6 cm - 9.4 cm diameter.



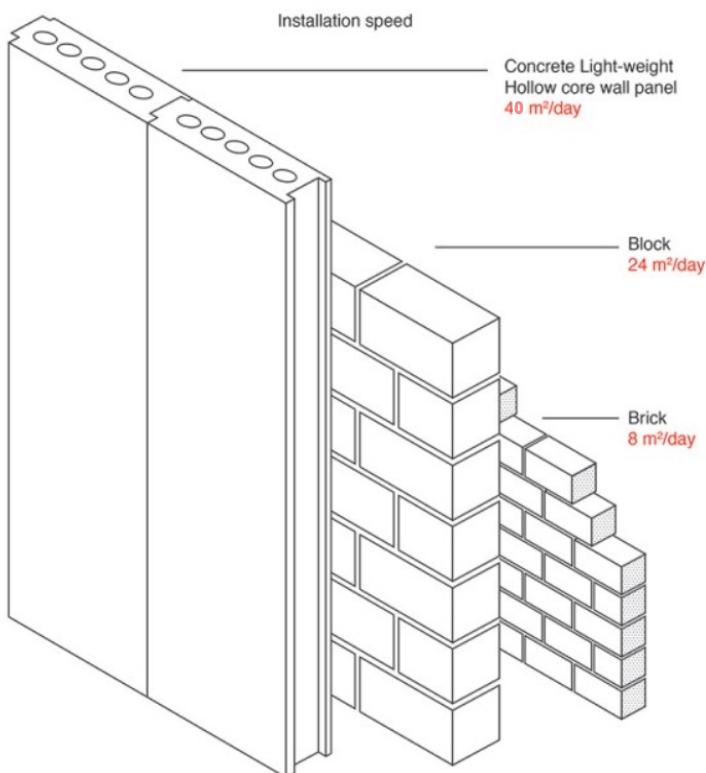
BENEFITS

- No Plastering Required.
- Time saving/Fast installation.
- Labour Saving.
- Economical Reduce cost of construction.
- Design Flexibility.

FAST INSTALLATION

Installation Rate

40 m²/day per group of 3 people



SOUND TRANSMISSION



Partition walls (9 cm)

46 dB



Regular Block (20 cm)

44 dB



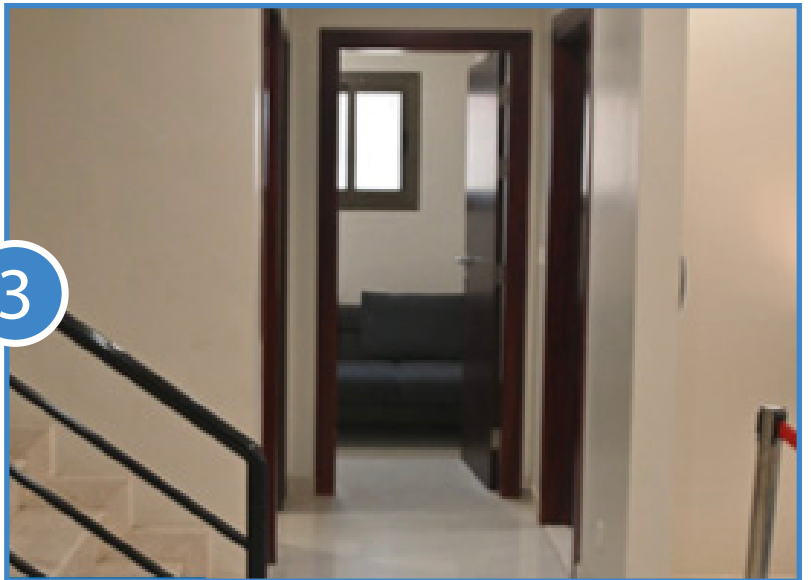
Technical Specifications

Test Specifications	Wall Panel 100 mm
Weight (kg/m ²)	100
Fire Rating (hours)	2
Sound Insulation (dB)	46
Compressive Strength Cube Test (N/mm ²)	25
Compressive Strength Section (N/mm ²)	15
Thermal Resistance (m ² k/W)	0.4

INSTALLATION PHASE



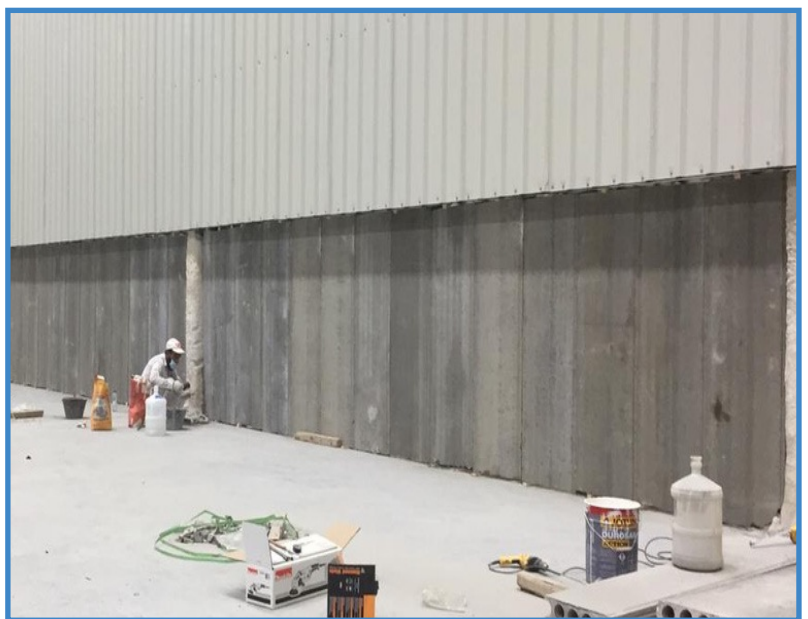
Before



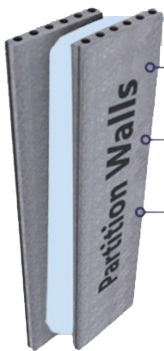
After

Wall Installation

PRODUCT GALLERY



EXTERNAL INSULATED WALL 20 CM THICKNESS (7.5 CM + 5 CM Insulation + 7.5 CM)



5X *Faster Installation*

NO *Plastering Required*

80% *Labour Saving*



Technical Specifications

Test Specifications	Double Wall 20 cm
Weight (kg/m ²)	200
Fire Rating (hours)	2
Compressive Strength Cube Test (N/mm ²)	25
Sound Insulation (dB)	+100
* U-Value	0.27

PREVIOUS PROJECTS

EXTERNAL INSULATED WALL



PREVIOUS PROJECTS

EXTERNAL INSULATED WALL



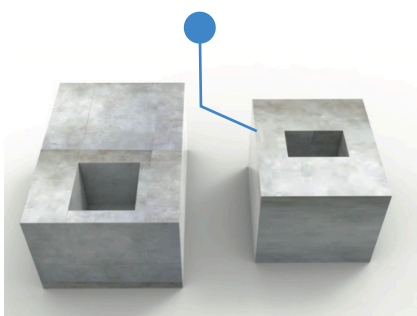
PRECAST FENCE SYSTEM BOUNDARY WALL 5 CM AND 10 CM THICKNESS



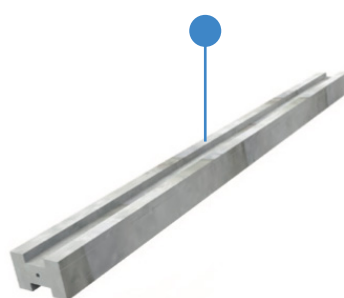
Boundary walls are commonly used in Saudi Arabia as its a part of its cultural in order to provide privacy to buildings, villas, palaces, office, factories and farms within a plot. ORAK Precast Involvement in numerous precast boundary wall projects allows for our experianced team to design , manufacture and install elemnts of the highest quality that are tailor made to each individual project's requirements.

The factory produces Pre-stressed concrete fence system 'Precast' Including:

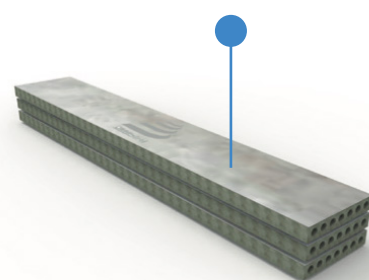
Footing



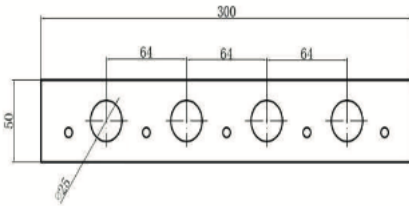
Columns



Wall panels

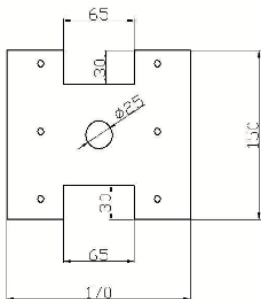


Wall Panels for 5 cm Thickness



Weight of individual panel 26 Kg/LM 5Ø5 Strands, High stressed steel H.S.S with Tension 600-500 Kgs.

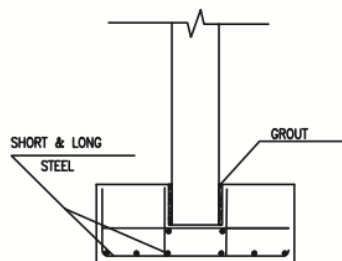
Columns



6Ø5 Strands, High stressed steel H.S.S Weight of Column 48 Kg/LM < Normal Column with Tension 600-500 Kgs.

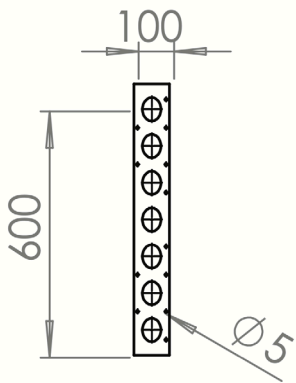


RCC Footing



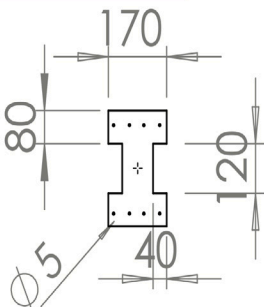
Depends on Footing Design.

Wall Panels for 10 cm Thickness



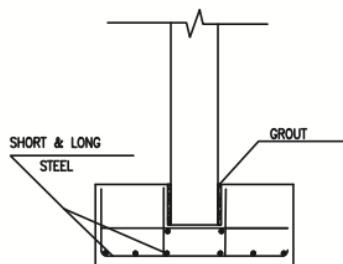
Weight of individual panel 90 KG/M 12Ø5 Strands, High stressed steel H.S.S with Tension 500-600 Kgs.

Columns

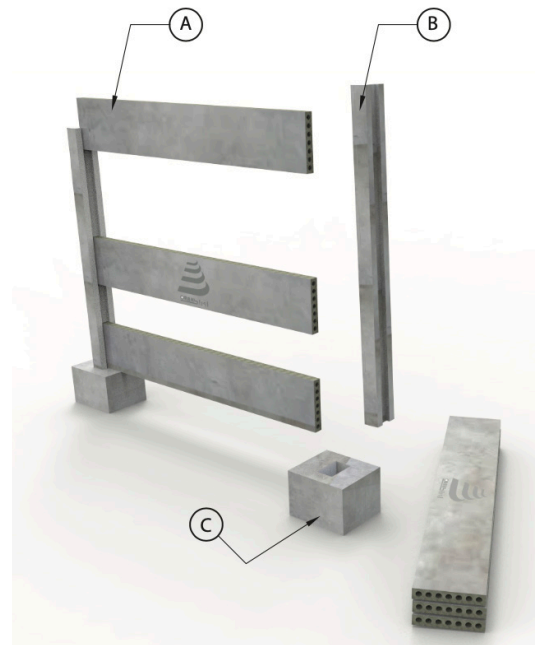


8Ø5 Strands, High stressed steel H.S.S Weight of Column 95 KG/M < Normal Column with Tension 500-600 Kgs.

RCC Footing



Depends on Footing Design.



Boundary wall Vs Traditional Brick Wall (Advantages)

PROPERTIES	RCC BOUNDARY WALL	TRADITIONAL BRICK WALL	ADVANTAGES
Construction Time (100 LM Wall)	<ul style="list-style-type: none"> Constructed just withing 2-3 days. 	<ul style="list-style-type: none"> Takes 7 days to construct & 7 more days for curing. 	<ul style="list-style-type: none"> RCC Walls saves precious. Construction Time.
Long Lasting	<ul style="list-style-type: none"> High Durability as RCC Panels are made from superior quality of concrete and steel material. 	<ul style="list-style-type: none"> Weak in nature as it depends on the quality of thickness, quality of sands, span of curing, The art of workmanship. 	<ul style="list-style-type: none"> RCC Walls require almost no maintenance. No Cracks due to quality of production. High strength more than normal.
Pricing	<ul style="list-style-type: none"> Cheaper as it requires a small group of workers to install. Cheaper as it is mainly capital intensive. 	<ul style="list-style-type: none"> Cost more as it depends mainly on lot of work force to build. Cost more as it is mainly labor intensive. 	<ul style="list-style-type: none"> Saves money for the long Term.

ORAK Pre-stressed Boundary Wall Benefits

Precast Prestressed concrete can most easily be defined as pre-compressed concrete. This means that compressive stress is applied into a concrete element before it begins its working life and is positioned to be in areas where tensile stress will develop under working load.



Time Saving & Fast Installtion



Sustainability & Minimal maintenance



Economical Fast & Installtion Reduced cost of Consturction



Design Felxibility



PREVIOUS PROJECTS BOUNDARY WALL 5 CM THICKNESS





PREVIOUS MOH PROJECT BOUNDARY WALL 10 CM THICKNESS



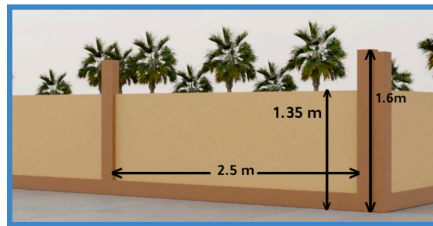
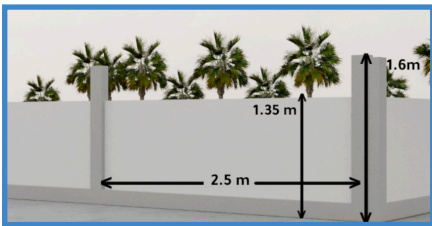


FENCING MODELS

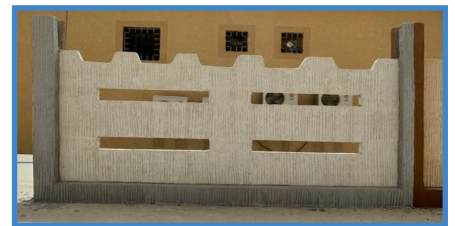
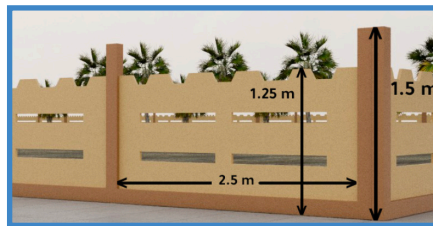
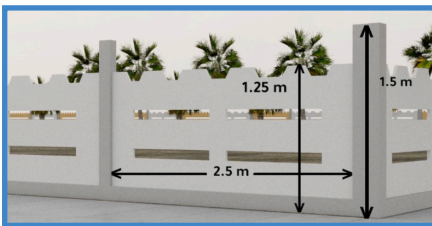
MATERIALS USED

- Precast concrete panels reinforced with (5 mm Prestress wire).
- Precast concrete column reinforced with (5 mm Prestress wire).
- Profile paint.

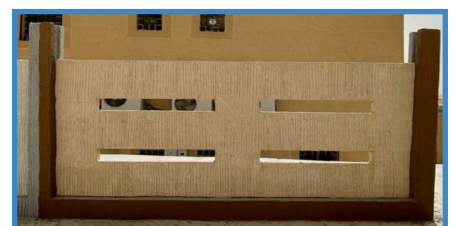
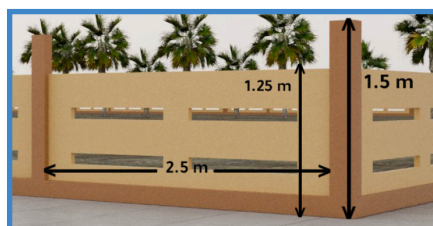
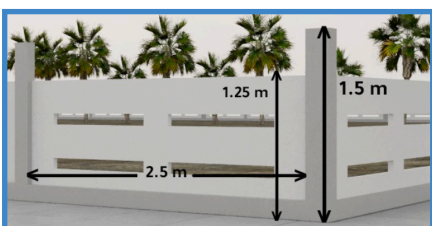
MODEL 1



MODEL 2



MODEL 3



HOLLOW CORE SLAB



The hollow core slab system is a replacement of conventional house flooring it has the advantage of reduced weight up to 40%, ease of construction and having better strength and quality.

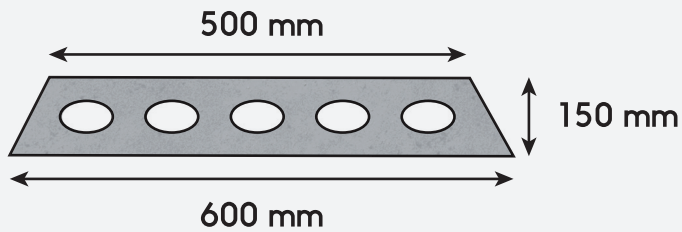
BEARING

Under normal conditions the hollow core slabs will need a minimum bearing not less than 50 mm.

Bearing well, under normal conditions, always be designed as 50 mm - 100 mm in order to allow for tolerances in the main load bearing structure.

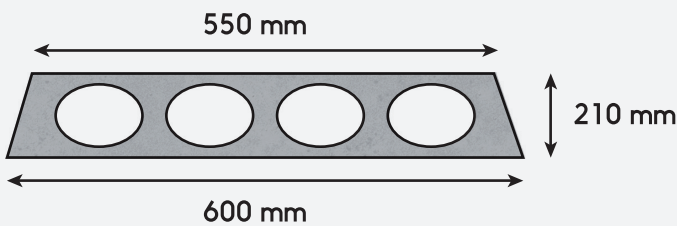


Slab Properties -150 mm



- Self weight of slabs is approximately 2.5 kN/m².
- After erection a layer of screed will be casted on site with thickness 50 - 100mm.

Slab Properties -210 mm



- Self-weight of slabs is approximately 2.9 kN/m².
- After erection a layer of screed will be casted on site with thickness 50 - 100 mm.

Topping		Loading Options		Maximum Permissible Span (m) - Tension Steel: 5FØ12															
Thickness (mm)	Steel	Live Load (kN/m ²)	Walls	Hollowcore Compression Steel															
				—				3FØ8				3FØ10				3FØ12			
				Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All
0	-	2.5	No	7.2	6.6	6.3	6.3	7.3	6.6	6.3	6.3	7.3	6.6	6.3	6.3	7.4	6.6	6.3	6.3
			Yes	5.6	5.7	4.8	4.8	5.7	5.7	4.9	4.9	5.8	5.7	4.9	4.9	5.8	5.7	4.9	4.9
		5	No	6	5.6	5.5	5.5	6.1	5.6	5.5	5.5	6.1	5.6	5.5	5.5	6.2	5.6	5.5	5.5
			Yes	4.9	4.8	4.4	4.4	5	4.8	4.4	4.4	5	4.8	4.4	4.4	5	4.8	4.5	4.5
50	-	2.5	No	7.5	7.6	7.1	7.1	7.8	7.6	7.1	7.1	8	7.6	7.1	7.1	>8	7.6	7.1	7.1
			Yes	6.2	6.8	5.8	5.8	6.4	6.9	5.8	5.8	6.6	6.9	5.8	5.8	6.8	6.9	5.8	5.8
		5	No	6.4	6.5	6.3	6.3	6.7	6.5	6.3	6.3	6.8	6.5	6.3	6.3	7	6.5	6.3	6.3
			Yes	5.4	5.8	5.3	5.3	5.7	5.8	5.3	5.3	5.8	5.8	5.3	5.3	5.9	5.8	5.3	5.3
	3FØ8	2.5	No	7.6	7.6	7.1	7.1	7.8	7.6	7.1	7.1	8	7.6	7.1	7.1	>8	7.6	7.1	7.1
			Yes	6.2	6.8	5.9	5.9	6.5	6.9	5.9	5.9	6.6	6.9	5.9	5.9	6.8	6.9	5.9	5.9
		5	No	6.5	6.5	6.3	6.3	6.7	6.5	6.3	6.3	6.8	6.5	6.3	6.3	7	6.5	6.3	6.3
			Yes	5.5	5.8	5.3	5.3	5.7	5.8	5.3	5.3	5.8	5.8	5.3	5.3	6	5.8	5.3	5.3
	3FØ10	2.5	No	7.6	7.6	7.1	7.1	7.8	7.6	7.1	7.1	8	7.6	7.1	7.1	>8	7.6	7.1	7.1
			Yes	6.2	6.8	5.9	5.9	6.5	6.9	5.9	5.9	6.6	6.9	5.9	5.9	6.8	6.9	5.9	5.9
		5	No	6.5	6.5	6.3	6.3	6.7	6.5	6.3	6.3	6.8	6.5	6.3	6.3	7	6.5	6.3	6.3
			Yes	5.5	5.8	5.4	5.4	5.7	5.8	5.4	5.4	5.8	5.8	5.4	5.4	6	5.8	5.4	5.4
	3FØ12	2.5	No	7.6	7.6	7.2	7.2	7.9	7.6	7.2	7.2	8	7.6	7.2	7.2	>8	7.6	7.2	7.2
			Yes	6.2	6.8	5.9	5.9	6.5	6.9	5.9	5.9	6.6	6.9	5.9	5.9	6.8	6.9	5.9	5.9
		5	No	6.5	6.5	6.4	6.4	6.7	6.5	6.4	6.4	6.8	6.5	6.4	6.4	7	6.5	6.4	6.4
			Yes	5.5	5.8	5.4	5.4	5.7	5.8	5.4	5.4	5.8	5.8	5.4	5.4	6	5.8	5.4	5.4
70	-	2.5	No	7.7	8	7.4	7.4	8	8	7.4	7.4	>8	8	7.4	7.4	>8	8	7.4	7.4
			Yes	6.3	7.3	6.2	6.2	6.7	7.3	6.2	6.2	6.9	7.3	6.2	6.2	7.1	7.3	6.2	6.2
		5	No	6.6	6.9	6.7	6.6	6.9	6.9	6.7	6.7	7.1	6.9	6.7	6.7	7.3	6.9	6.7	6.7
			Yes	5.6	6.2	5.7	5.6	5.9	6.2	5.7	5.7	6.1	6.2	5.7	5.7	6.3	6.2	5.7	5.7
	3FØ8	2.5	No	7.7	8	7.5	7.5	8	8	7.5	7.5	>8	8	7.5	7.5	>8	8	7.5	7.5
			Yes	6.4	7.3	6.3	6.3	6.7	7.3	6.3	6.3	6.9	7.3	6.3	6.3	7.1	7.3	6.3	6.3
		5	No	6.6	6.9	6.7	6.6	6.9	6.9	6.7	6.7	7.1	6.9	6.7	6.7	7.3	6.9	6.7	6.7
			Yes	5.6	6.2	5.7	5.6	5.9	6.2	5.7	5.7	6.1	6.2	5.7	5.7	6.3	6.2	5.7	5.7
	3FØ10	2.5	No	7.7	8	7.5	7.5	8	8	7.5	7.5	>8	8	7.5	7.5	>8	8	7.5	7.5
			Yes	6.4	7.3	6.3	6.3	6.7	7.3	6.3	6.3	6.9	7.3	6.3	6.3	7.1	7.3	6.3	6.3
		5	No	6.6	6.9	6.7	6.6	6.9	6.9	6.7	6.7	7.1	6.9	6.7	6.7	7.3	6.9	6.7	6.7
			Yes	5.7	6.2	5.7	5.7	5.9	6.2	5.7	5.7	6.1	6.2	5.7	5.7	6.3	6.2	5.7	5.7
	3FØ12	2.5	No	7.7	8	7.5	7.5	8	8	7.5	7.5	>8	8	7.5	7.5	>8	8	7.5	7.5
			Yes	6.4	7.3	6.3	6.3	6.7	7.3	6.3	6.3	6.9	7.3	6.3	6.3	7.1	7.3	6.3	6.3
		5	No	6.7	6.9	6.7	6.7	6.9	6.9	6.7	6.7	7.1	6.9	6.7	6.7	7.3	6.9	6.7	6.7
			Yes	5.7	6.2	5.8	5.7	5.9	6.2	5.8	5.8	6.1	6.2	5.8	5.8	6.3	6.2	5.8	5.8

Topping		Loading Options		Maximum Permissible Span (m) - Tension Steel: 5FØ14															
Thickness (mm)	Steel	Live Load (kN/m ²)	Walls	Hollowcore Compression Steel															
				--				3FØ8				3FØ10				3FØ12			
				Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All
0	-	2.5	No	>8	6.7	6.3	6.3	>8	6.7	6.4	6.4	>8	6.7	6.4	6.4	>8	6.7	6.4	6.4
			Yes	6.7	6.1	4.9	4.9	6.8	6.1	5	5	6.8	6.1	5	5	6.8	6.1	5	5
		5	No	7	5.7	5.5	5.5	7	5.7	5.6	5.6	7	5.7	5.6	5.6	7	5.7	5.6	5.6
			Yes	5.8	5	4.5	4.5	5.9	5	4.5	4.5	5.9	5	4.5	4.5	5.9	5	4.5	4.5
50	-	2.5	No	>8	7.7	7.2	7.2	>8	7.7	7.2	7.2	>8	7.7	7.2	7.2	>8	7.7	7.2	7.2
			Yes	7.3	7.2	5.9	5.9	7.6	7.2	5.9	5.9	7.7	7.2	5.9	5.9	7.8	7.2	5.9	5.9
		5	No	7.5	6.5	6	6	7.7	6.5	6	6	7.8	6.5	6	6	7.9	6.5	6	6
			Yes	6.4	5.5	4.6	4.6	6.6	5.5	4.6	4.6	6.7	5.5	4.6	4.6	6.9	5.5	4.6	4.6
	3FØ8	2.5	No	>8	>8	7.1	7.1	>8	>8	7.1	7.1	>8	>8	7.1	7.1	>8	>8	7.1	7.1
			Yes	7.3	>8	5.3	5.3	7.6	>8	5.3	5.3	7.7	>8	5.3	5.3	7.8	>8	5.4	5.4
		5	No	7.5	6.5	6.1	6.1	7.7	6.5	6.1	6.1	7.8	6.5	6.1	6.1	7.9	6.5	6.1	6.1
			Yes	6.4	5.5	4.7	4.7	6.6	5.5	4.7	4.7	6.7	5.5	4.7	4.7	6.9	5.5	4.7	4.7
	3FØ10	2.5	No	>8	>8	7.1	7.1	>8	>8	7.1	7.1	>8	>8	7.2	7.2	>8	>8	7.2	7.2
			Yes	7.3	>8	5.4	5.4	7.6	>8	5.4	5.4	7.7	>8	5.4	5.4	7.8	>8	5.4	5.4
		5	No	7.5	6.5	6.1	6.1	7.7	6.5	6.1	6.1	7.8	6.5	6.1	6.1	7.9	6.5	6.1	6.1
			Yes	6.4	5.5	4.7	4.7	6.7	5.5	4.7	4.7	6.7	5.5	4.7	4.7	6.9	5.5	4.7	4.7
	3FØ12	2.5	No	>8	>8	7.2	7.2	>8	>8	7.2	7.2	>8	>8	7.2	7.2	>8	>8	7.2	7.2
			Yes	7.4	>8	5.4	5.4	7.6	>8	5.4	5.4	7.7	>8	5.4	5.4	7.8	>8	5.4	5.4
		5	No	7.5	6.5	6.1	6.1	7.7	6.5	6.1	6.1	7.8	6.5	6.1	6.1	7.9	6.5	6.1	6.1
			Yes	6.5	5.5	4.7	4.7	6.6	5.5	4.7	4.7	6.7	5.5	4.7	4.7	6.9	5.5	4.7	4.7
70	-	2.5	No	>8	>8	7.6	7.6	>8	>8	7.6	7.6	>8	>8	7.6	7.6	>8	>8	7.6	7.6
			Yes	7.5	>8	5.9	5.9	7.8	>8	5.9	5.9	8	>8	5.9	5.9	>8	>8	5.9	5.9
		5	No	7.6	7.1	6.5	6.5	7.9	7.1	6.5	6.5	8	7.1	6.5	6.5	>8	7.1	6.5	6.5
			Yes	6.6	6.2	5.1	5.1	6.9	6.3	5.1	5.1	7	6.3	5.1	5.1	7.2	6.3	5.1	5.1
	3FØ8	2.5	No	>8	>8	7.7	7.7	>8	>8	7.7	7.7	>8	>8	7.7	7.7	>8	>8	7.7	7.7
			Yes	7.6	>8	5.9	5.9	7.8	>8	5.9	5.9	8	>8	6	6	>8	>8	6	6
		5	No	7.7	7.1	6.5	6.5	7.9	7.1	6.5	6.5	>8	7.1	6.5	6.5	>8	7.1	6.5	6.5
			Yes	6.7	6.3	5.2	5.2	6.9	6.3	5.2	5.2	7	6.3	5.2	5.2	7.2	6.3	5.2	5.2
	3FØ10	2.5	No	>8	>8	7.7	7.7	>8	>8	7.7	7.7	>8	>8	7.7	7.7	>8	>8	7.7	7.7
			Yes	7.6	>8	6	6	7.8	>8	6	6	8	>8	6	6	>8	>8	6	6
		5	No	7.7	7.1	6.6	6.6	7.9	7.1	6.6	6.6	8	7.1	6.6	6.6	>8	7.1	6.8	6.8
			Yes	6.7	6.3	5.2	5.2	6.9	6.3	5.2	5.2	7	6.3	5.2	5.2	7.2	6.4	5.8	5.8
	3FØ12	2.5	No	>8	>8	7.6	7.6	>8	>8	7.6	7.6	>8	>8	7.6	7.6	>8	>8	7.6	7.6
			Yes	7.6	7.7	6.4	6.4	7.8	7.7	6.4	6.4	8	7.7	6.4	6.4	>8	7.7	6.4	6.4
		5	No	7.7	7.1	6.8	6.8	7.9	7.1	6.8	6.8	8	7.1	6.8	6.8	>8	7.1	6.8	6.8
			Yes	6.7	6.4	5.8	5.8	6.9	6.4	5.9	5.9	7	6.4	5.9	5.9	7.2	6.4	5.9	5.9

Topping		Loading Options		Maximum Permissible Span (m) - Tension Steel: 5FØ16															
Thickness (mm)	Steel	Live Load (kN/m ²)	Walls	Hollowcore Compression Steel															
				—				3FØ8				3FØ10				3FØ12			
				Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All	Mu	ΔS	ΔL	All
0	-	2.5	No	>8.	6.9	6.4	6.4	>8.	6.9	6.4	6.4	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5
			Yes	7.8	6.4	5	5	7.8	6.5	5.1	5.1	7.8	6.5	5.1	5.1	7.9	6.5	5.1	5.1
		5	No	7.9	5.9	5.6	5.6	7.9	5.9	5.6	5.6	7.9	5.9	5.7	5.7	7.9	5.9	5.7	5.7
			Yes	6.8	5.2	4.6	4.6	6.8	5.2	4.6	4.6	6.8	5.2	4.6	4.6	6.8	5.2	4.6	4.6
50	-	2.5	No	>8.	8	7.3	7.3	>8.	8	7.3	7.3	>8.	8	7.3	7.3	>8.	8	7.3	7.3
			Yes	>8.	7.7	6	6	>8.	7.7	6	6	>8.	7.7	6	6	>8.	7.7	6	6
		5	No	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5
			Yes	7.4	6.2	5.5	5.5	7.6	6.2	5.5	5.5	7.7	6.2	5.5	5.5	7.8	6.2	5.5	5.5
	3FØ8	2.5	No	>8.	8	7.3	7.3	>8.	8	7.3	7.3	>8.	8	7.3	7.3	>8.	8	7.3	7.3
			Yes	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1
		5	No	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5
			Yes	7.4	6.2	5.5	5.5	7.6	6.2	5.5	5.5	7.7	6.2	5.5	5.5	7.8	6.2	5.5	5.5
	3FØ10	2.5	No	>8.	8	7.3	7.3	>8.	8	7.3	7.3	>8.	8	7.3	7.3	>8.	8	7.3	7.3
			Yes	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1
		5	No	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5
			Yes	7.4	6.2	5.6	5.6	7.6	6.2	5.6	5.6	7.7	6.2	5.6	5.6	7.8	6.2	5.6	5.6
	3FØ12	2.5	No	>8.	8	7.3	7.3	>8.	8	7.3	7.3	>8.	8	7.3	7.3	>8.	8	7.3	7.3
			Yes	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1	>8.	7.7	6.1	6.1
		5	No	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5	>8.	6.9	6.5	6.5
			Yes	7.4	6.2	5.6	5.6	7.6	6.2	5.6	5.6	7.7	6.2	5.6	5.6	7.8	6.2	5.6	5.6
70	-	2.5	No	>8.	>8.	7.6	7.6	>8.	>8.	7.6	7.6	>8.	>8.	7.6	7.6	>8.	>8.	7.6	7.6
			Yes	>8.	>8.	6.4	6.4	>8.	>8.	6.4	6.4	>8.	>8.	6.4	6.4	>8.	>8.	6.4	6.4
		5	No	>8.	7.2	6.8	6.8	>8.	7.2	6.8	6.8	>8.	7.2	6.8	6.8	>8.	7.2	6.8	6.8
			Yes	7.7	6.6	5.9	5.9	7.9	6.6	5.9	5.9	8	6.6	5.9	5.9	>8.	6.6	5.9	5.9
	3FØ8	2.5	No	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7
			Yes	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5
		5	No	>8.	7.2	6.9	6.9	>8.	7.2	6.9	6.9	>8.	7.3	6.9	6.9	>8.	7.3	6.9	6.9
			Yes	7.7	6.6	5.9	5.9	7.9	6.6	5.9	5.9	8	6.6	5.9	5.9	>8.	6.6	5.9	5.9
	3FØ10	2.5	No	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7
			Yes	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5
		5	No	>8.	7.2	6.9	6.9	>8.	7.2	6.9	6.9	>8.	7.3	6.9	6.9	>8.	7.3	6.9	6.9
			Yes	7.7	6.6	5.9	5.9	7.9	6.6	5.9	5.9	8	6.6	5.9	5.9	>8.	6.6	5.9	5.9
	3FØ12	2.5	No	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7	>8.	>8.	7.7	7.7
			Yes	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5	>8.	>8.	6.5	6.5
		5	No	>8.	7.2	6.9	6.9	>8.	7.3	6.9	6.9	>8.	7.3	6.9	6.9	>8.	7.3	6.9	6.9
			Yes	7.7	6.6	6	6	7.9	6.6	6	6	8	6.6	6	6	>8.	6.6	6	6

INSTALLATION

Once the hollow core slabs are well erected using 20-50 tons crane, the electrical conduit and plumbing can be taken through the hollow cores as well as through longitudinal and transverse joints.

The conduits are thus out of sight and safe from damage. If screed provided on top of the slabs, the conduits are normally run in the screed and holes are drilled through the slab for installation of the electrical boxes. If false ceiling is provided, it is most common that the very conduit is placed between the soffit of the slabs and the false ceiling.





SCREEDING

The hollow core slab are need to non structural topping is specified a simple 50 –100 mm leveling screed is necessary or structural topping for heavy load see previous tables1 and 2.



CANTILEVER SLABS

Hollow core slab can be cantilevered until 1.2 m depending on the slabs thickness, and other cases.

The cantilevered slabs can be used for making balconies, bay windows, extensions and other decorative structures.



SOUND & INSULATION

The benefits of concrete for reducing sound transfer have been realized and used in house construction for years. The use of concrete floor slabs between levels has proven to cut noise transfer by over 50%.

FIRE RATE

One of the attributes of hollow core slab construction is excellent fire resistance. More than 30 standard fire tests (ASTM E119) have been conducted on hollow core floor assemblies.

The standard fire test method, ASTM E119, limits the average temperature rise of the unexposed surface, i.e., the surface of floor or roof not exposed to fire, to 250 °F (120 °C) during a fire test. This criterion is often called the heat transmission end point.

For solid concrete slabs, the temperature rise of the unexposed surfaces depends mainly on the slab thickness and aggregate type. Figure 6.2 shows the relationship between slab thickness and fire endurance as determined by the heat transmission end point criterion.

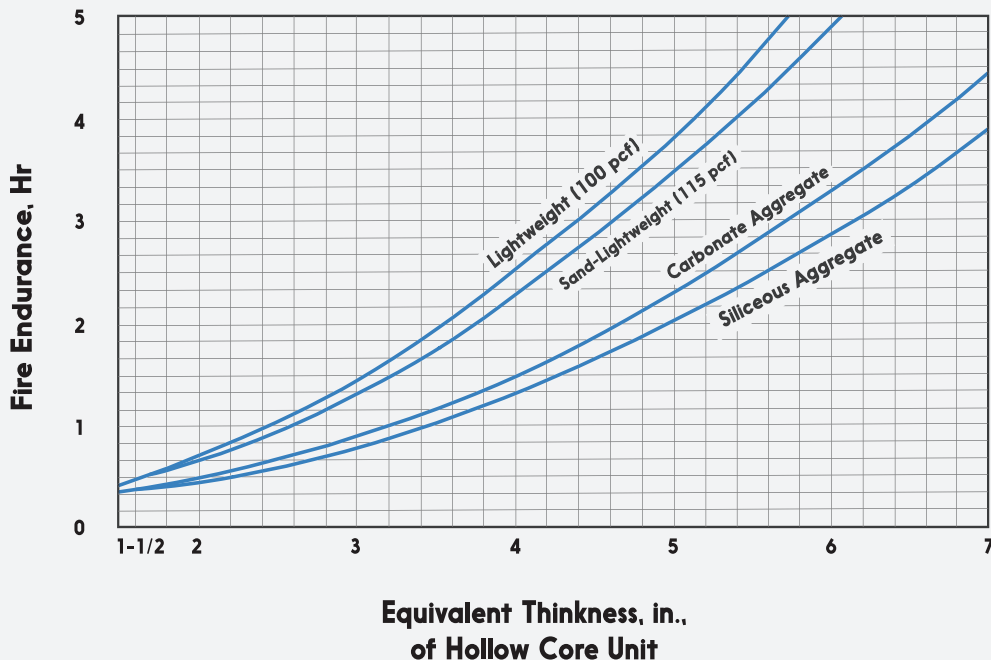


FIGURE 6.2

Fire endurance (heat transmission) of hollow core units.

Equivalent Thickness

The information in Figure 6.2 is applicable to hollow core slabs by entering the graph with the “equivalent thickness” of the unit instead of the thickness.

Equivalent thickness can be calculated by dividing the net area of the cross section of a hollow core unit by the width of the unit.

The equivalent thickness for our hollow core is 4.8 inch equal 2 hours and after adding 50 mm (screed) at 6 inch more than 3 hours.

Advantages of reinforced flooring against prestressed flooring

Precast

No Precamber – Ideal For Finishing Trades.

600 mm Wide Lighter Unit Requires Smaller Crane.

Shear Keys at both sides of the slab.

Slabs are produced at the required length.

Important Information

DO

- Grout shear keys before floor is loaded and before joints fill with debris.
- Ensure grout has reached required strength before loading of floor.
- Use C35/10 concrete when grouting.
- Sufficiently wet shear keys before placing grout.
- Prop spans exceeding 3.0 m at mid span before grouting.
- Prop all floors loaded with blocks.
- Prop all cantilevered slabs at extreme free edge.
- Allow one cubic meter of grout for every 75 sq. meters of flooring.
- Read attached information regarding your particular job.

DO NOT

- Do not exceed loadings as indicated on your customer drawings
- Do not leave floor ungrouted.
- Do not grout with anything other than specified mix.
- Do not leave out any specified steel.
- Do not load floor before grout has cured.
- Do not load unpropped floors when span exceeds 3.0 meters.
- Do not remove props before loading removed.
- Do not use impact tools when fixing to or creating openings in slabs.
- Do not plaster direct until floor above has been completed.

TEST AND QUALITY CONTROL

ORAK Factory is built up at the state of the art of technology by Coote Engineering Company from UK to produce reinforced hollow-core slab at European standards which have been tested and approved by specialized lab in UK.



CERTIFIED TESTS FOR LIGHT WEIGHT PARTITION WALL

- Weight Hanging Test
- Thermal resistivity Test
- Double wall 20 cm Thermal test
- Compressive strength Test 7 days
- Compressive strength Test 28 days
- Sound Transmission



CERTIFICATIONS

- SASO Certification
- ISO 9001:2015

Certified Tests for Hollow Core Slab Systems



The company has conducted the required product tests with the SASO accredited specialized company AL HOUTI, Our Company has got the quality of the product certificate.



Tests of the product with Prince Salman University



The company in collaboration with the Faculty of Engineering at the University of Prince Salman at Al-Kharj is conducting tests of the product according to ISO specifications with the participation of students and professors from the Faculty of Engineering.





ISO 9001:2015 CERTIFICATE

Daily Control



Lab technicians perform daily control tests of the concrete components and mix to meet the international standard quality control procedures in our own laboratory in the factory.

Received
16 AUG 2020

Abnia Consulting Engineers
Abnia MATERIAL SUBMITTAL

Project Name: Telal Alghroub-Prince Fawaz DISTRICT
Contractor: Sany Alameriah Co.

Submittal No. 1
Submittal Date: 10-08-2020
Revision No. 00

PURPOSE OF SUBMITTAL
 For Information For Comment For Approval

DISCIPLINE
 Civil Architectural Structural HVAC Plumbing Mechanical Others

ATTACHMENT
 Catalogue Drawing Certificate Sample Tech. Data Calculation Compliance Dtd.

MATERIAL REQUIREMENT
 Please refer the attachment in case items are more than the provided space.

Item No. and Description	Manufacturer/Supplier	Specification Ref.	Action Code	Used
NON-LOADING PARTITION WALL 75, 100, 200 mm	ORAK PERCAST COMPANY		AP	

Contractor's Project Manager: WANG
Signature: [Signature] Date: [Date]

Consultant's Remarks: approved of the above materials does not release the Contractor from his contractual obligation.

Consultant Representative: [Signature] Date: [Date]

Action Code: A - New Submittal To Proceed No Action No Review No Submittal Resubmitted Approved Rejected (Subject to Re-submittal)

REF: OUT
Date: 16/8/20

Abnia Consulting Engineers
Abnia MATERIAL SUBMITTAL

الرجوع: 30 سبتمبر 2022

إلى من يهيمه الأمر

تم اعداد السادة / مصنع اوراك الاجزاء الحرسية مسبقة الصنع للتقديم وتصنيع وتركيب الحوائط الخفيفة لمشروع نخل العروب - جدة - الأمير فواز، للاراكات 3-5-8-11، هذا وقد اتموا باعمال تصنيع وتوريد وتركيب الحوائط الخفيفة حسب العقد الموقع معهم وحسب اصول الصناعة والمواصفات والمعايير المعمدة للمشروع.

وقد كان فريق العمل بالمشروع يتبع بالاداء المتميز والتعاون المستمر، وقد اصدر لهم هذا الخطاب دون ادنى مسؤولية على المكتب الاستشاري.

وتفضلوا بقبول التحية والتقدير.

مكتب الابنية للاستشارات الهندسية

info@abnia.com • 0111124810 • هاتف: 0111124810 • فاكس: 0111124810 • الموقع الإلكتروني: P.O. Box 279 Jeddah: 21411. Saudi Arabia. Tel: +966 12 284 5001 Fax: +966 12 284 5001 - info@abnia.com

SANY Al-amriyah consultant

Telal Al-ghroub project MOH letter of recommendation

SAPL SAUDI ARABIAN PARSONS LTD. 中设集团 CMEC

Material Submittal Form

Submittal Ref: DHP-CMC-W3-FMO-MAT-C3-0024 Revision: 00 Date: 2020.04.01

Program Title: Developmental-Housing Project of WAVE #3
Project Title: All projects (Dowmat Al Jandak, Tabarjal, Turalf)
Client: MOH/DHWHC
PM: Saudi Arabian Parsons Ltd. S.A.P.L.
Engineer: Saudi consult Contractor: CMEC

Discipline: Civil Architecture Mechanical Electrical Others

Documents Details:

SN	Document Title/Description	Reference No.	Rev. No.	Media (Elect./Hard)	No. of Copies
1	Precast Wall Manufacture: ORAK including: company profile, qualification, test report, Specifications, Technical data Sheets		00	Elect./Hard	1

Contractor Signatures & Stamp: Discipline: Engineer: QM/QC HSE MEP Construction Manager

Received By Engineer: Name: Ammar Badawi Signature: [Signature] Date: 2020-04-01

Submittal Status: A - Approved B - Approved with Comment C - Rejected and Resubmit D - Rejected

Engineer's Comments: ORAK as precast manufacturer and supplier is Approved as noted below
 1- Expired certificate shall be updated
 2- Products warranties to be provided
 3- Shop drawings shall be submitted
 4- Test report/ quality control/ technical data shall be provide

Client's Comments:

Received By (Contractor):

SAPL SAUDI ARABIAN PARSONS LTD. 中设集团 CMEC

Material Submittal form

Submittal Ref: DHP-CMC-W3-FMO-MAT-C3-0024 Rev No: 01 Date: 10/06/2020

Program Title: Developmental-Housing Project of WAVE #3
Project Title: All projects (Dowmat Al Jandak, Tabarjal, Turalf)
The Employer: MOH
Third party: SAPL
Consultant: Saudi consult
Contractor: CMEC

Material Details

Notice: SAPL review will recommend either Objection or No Objection to each item. Non-Objected shall be issued to the WHC with the recommendation to approve. Objected shall be returned to the Contractor with an Objection report. This sheet must be signed by any specialist sub-contractor responsible for the Material element Design (i.e. Precast panel manufacturer).

Proposed by: [Signature]
The Contractor: [Signature]
The Consultant (Designer & the Engineer): [Signature]
Specialist / Sub-Contractor: [Signature]

Material Information & Checklist

Location /Element Ref:	Checklist of Attachments:	Objection	No Objection
Proposed Material: Precast Wall	Drawing/Specification	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Proposed Material: Precast Wall	Product DataSheet	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SOP/COQ Refs: K.BU/ & Q2 BY	Compliance Certificate/Documents	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Manufacturer & Product code ref: ORAK	Compliance Statement	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Remarks/Notes:	Sample (available)	<input type="checkbox"/>	<input type="checkbox"/>

THE ENGINEER: Review date: 10/06/2020 Approved Date: 10/06/2020
Signed: [Signature] Print Name: Ammar Badawi

Third Party: Review date: Recommendation Date:
Signed: Print Name:

The Employer: Review date: Review Date:
Signed: Print Name:

Factory approval from MOH in the Northern Borders Project

Ministry of housing consultant approval

SAFETY POLICY

SAFETY FIRST

The ultimate goal of the organization is to eliminate the accidents and provide a safe and healthy working environment that will trigger a physical and mental well-being which will lead to productivity.

The department has prepared to a comprehensive safety program entailing the safety employee program and guidelines for safety for production thru erection activities.

Safety orientation is conducted for every employee before they will be deployed to their work assignment. Safety meeting is also initiated to monitor the process operation in fulfillment to the company safety management system.



PROJECTS



ACTUAL PROJECTS

- Telal Al-ghroub projects
167 (7-story building)
- Alfursan Villas at alkhrij
- Dyrab
- wehdat alwatn
- Al-Fanar Project
- Al-Eskan Project

TELAL AL-GHROUB PROJECTS



ALFURSAN VILLAS PROJECT AT ALKHRJ



ALAMMARIA VILLAS PROJECT AT RIYADH



AL-FANAR PROJECT



AL-ESKAN PROJECT





COMPANY ACTIVITIES



Participation in Big 5 Exhibition 2014 in Jeddah.

Participation in Big 5 Exhibition 2014 in Dubai.





Participation in Saudi Build 2014 in Riyadh.

Salman University Engineering college visit to the factory.





شركة مصنع اوراك
ORAK Factory Co.
لإنتاج للأجزاء الخرسانية الجاهزة



شركة مصنع اوراك
ORAK Factory Co.
لإنتاج للأجزاء الخرسانية الجاهزة



Exit18, Istanbul st, Alsulai District, Riyadh, Saudi Arabia

T: +011 810 6169 | M: +966 593 269 995

E: orakprecast@gmail.com | W: www.orakprecast.net