



EMFIL إمفل

Emirates Filigran LLC

فيلكران الامارات ذ.م.م.



Slabs . Walls . Stairs

Emfil Slabs

The innovative precast floor slab with numerous advantages



Emfil Walls



Emfil Stairs



Emfil Slabs are prefabricated concrete elements that are later covered with an in-situ concrete layer. Together they behave as a monolithic concrete slab.

Emfil Slabs are usually 2.50m wide, up to 10m long and 5 to 7cm thick.

The single elements are provided with bottom reinforcement and offer a very smooth surface on the underside.

Filigran girders give the relatively thin slabs the necessary stiffness for handling.

Emfil Slabs are light (standard slabs 125 kg/m²) and therefore easy to handle. Site cranes put the elements in position. Lifting gear is connected to the lattice girders. Temporary supports are placed to carry slab weight and in-situ concrete.

After placing the **Emfil Slabs** electrical piping and plumbing works is done and upper reinforcement applied. Concrete is then poured on to the slabs to obtain the required floor thickness and structural stability.



Support girders are placed in position. Some **Emfil Slabs** are already laid. Basement walls are "Emfil Walls". **Emfil Slabs** are placed on to the inner shell of the Double Walls, therefore no girder along the walls.



Large **Emfil Slabs** can be produced and laid due to their low weight per m^2 (in this case the slab is 5cm thick and weighs $125kg/m^2$). Light cranes can usually handle villa sites. Handling is safe as 4 hooks are connected to the lattice girders.



The under side of **Emfil Slabs** is as smooth as the outside of the "**Emfil Walls**" seen in this photo. Some **Emfil Slabs** at the left side are equipped with additional lattice girders to take care for specific structural requirements.



A precast stair element is placed into its final position. Especially of interest is the easy integration of this **Emfil Stair** element into the structure based on **Emfil Slabs**. Good to see are **Emfil Walls** at the left side.



Emfil Slabs are well suited to compliment pre-engineered steel structures as the concreted floor works as a monolithic unit, which can stiffen each floor level. Composite bond is achieved by shear studs welded onto the beams.



After fixing the upper reinforcement concrete is filled up (in this case 15cm thick) to the required floor height. Statically the concrete floor acts as a monolithic unit of (here) 20 cm height.

Advantages of Emfil Slabs

- 1** **Emfil Slabs** are CIM- Products (Computer Integrated Manufacturing). This stands for the complete steering and control of the production process by means of computer and robots, which eliminates human error and guarantees repeated high levels of precision.
- 2** **Emfil Slabs** offer the designer nearly unrestricted ground plan possibilities. All necessary recesses are made at the correct places in the factory.
- 3** **Emfil Slabs** can be spanned in x and y direction reducing floor thickness and reinforcement. Fire resistant (F90) specification for x and x-y- directional spanned floor is assured.
- 4** **Emfil Slabs** speed up the building process. Usual construction steps are reduced to halve. Contractors highlight especially savings in plywood and elimination of moving shuttering in and out of each floor.
- 5** Post processing of **Emfil Slabs** undersides is basically limited to filling of joints and paint. Plaster is not required.
- 6** Electrical - and other parts can be installed before concreting which saves time and hides these parts within the ceiling.
- 7** **Emfil Slabs** are well suited to compliment pre-engineered steel structures as the concreted floor works as a monolithic unit, which stiffens each floor level. Composite bond is achieved by shear studs welded onto the beams.
- 8** **Emfil Slabs** are light compared to any other precast concrete floor element. Handling of **Emfil Slabs** is easy and safe. Gear hooks are connected to the lattice girders.
- 9** With "just in time" delivery there are no process delays. No storage place will be required when the site is ready to offload directly from the delivery trailer to the final place.
- 10** **Emfil Slabs** are supplied all over the Emirates. Trailer loads vary between 120 and 240 m².



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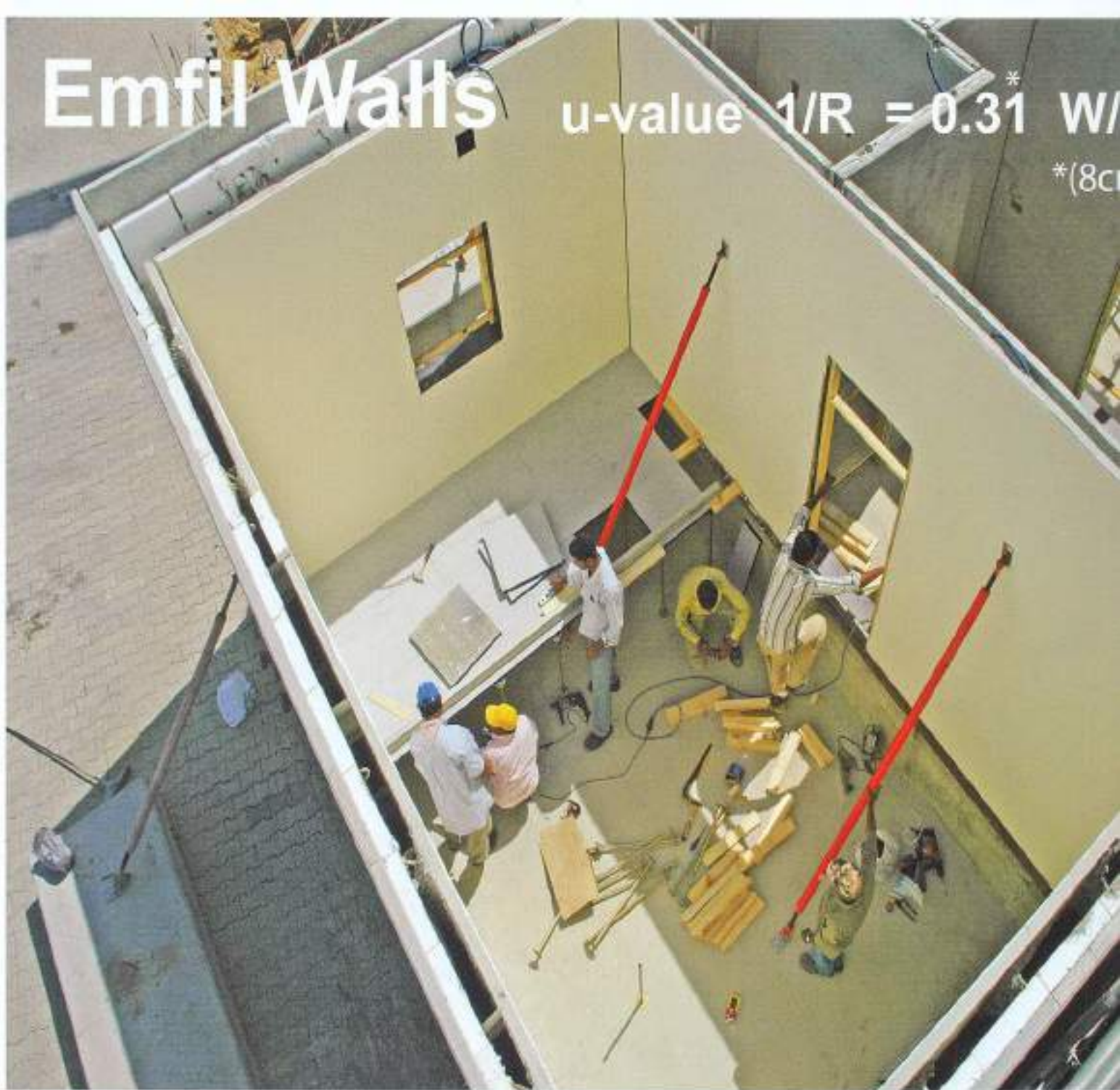
Emfil Slabs speed up the building process. Usual construction steps are reduced to halve. Contractors highlight especially savings in plywood and elimination of moving shattering in and out of each floor.



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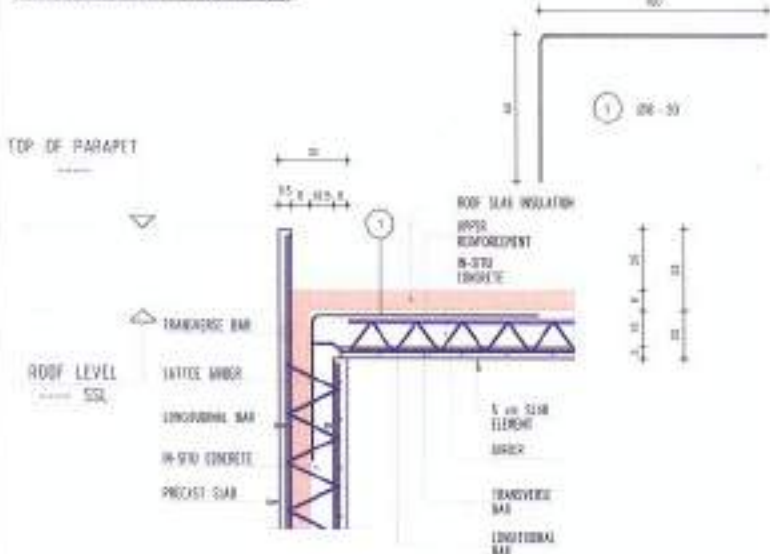
Emfil Walls

u-value $1/R = 0.31 \text{ W/m}^2\text{K}$
*(8cm)



h²K
(EPS)

EXTERNAL WALL & ROOF SLAB

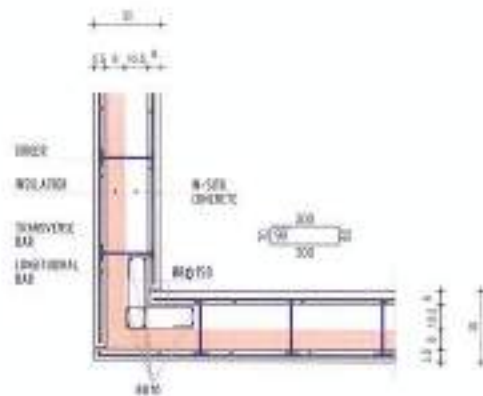


VERTICAL DETAILS
(WALL & SLAB)

ROOF LEVEL

CHABATIS - FUGRO
P.O. BOX 6576
RAS AL KHAIMA, UAE
TEL : +971-7-26 45 888
FAX : +971-7-26 47 888

CONNECTION AT CORNER



HORIZONTAL CONNECTION DETAILS

30cm thick
wall (EXTERNAL)

CHABATIS - FUGRO
P.O. BOX 6576
RAS AL KHAIMA, UAE
TEL : +971-7-26 45 888
FAX : +971-7-26 47 888



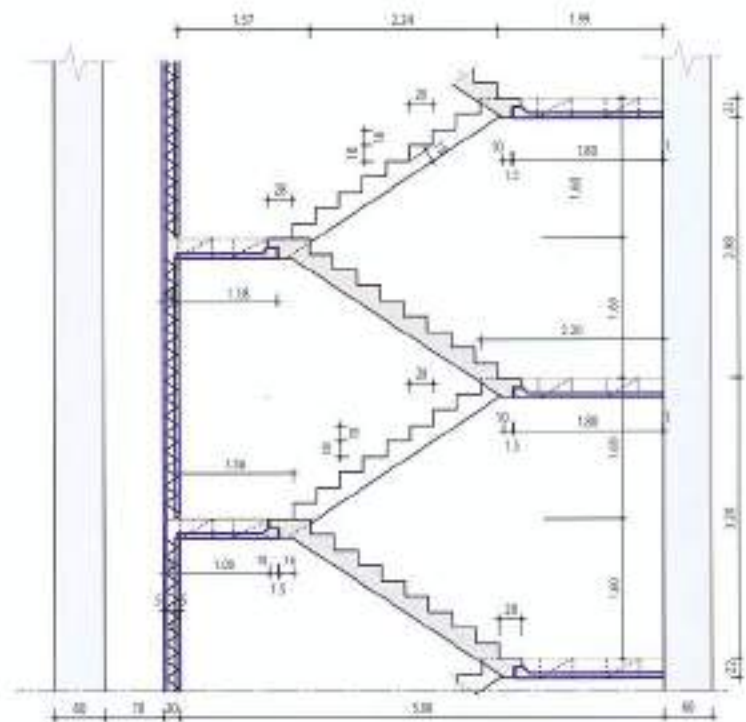
Emfil Stairs



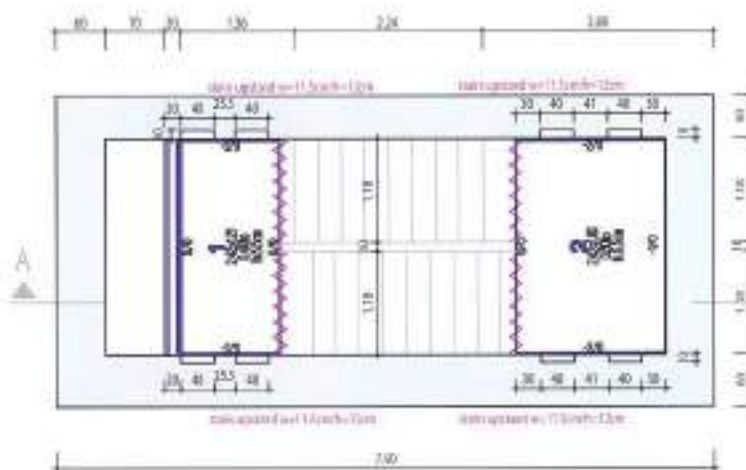
Emfil



Emfil Stair connected to Emfil Slab



SECTION AA



PLAN OF STAIRCASE



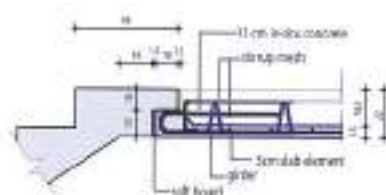
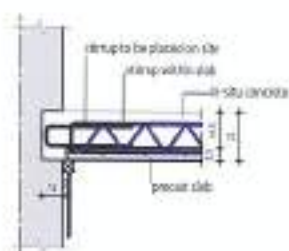
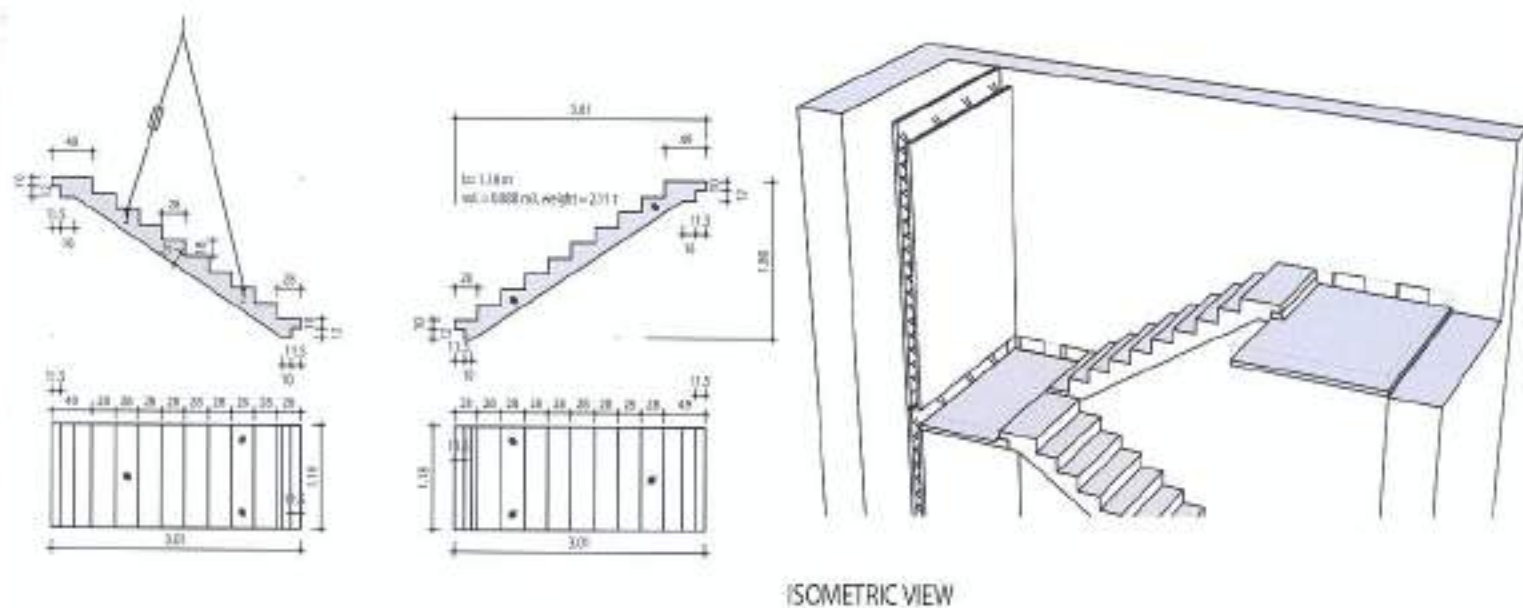
air Lifting hooks



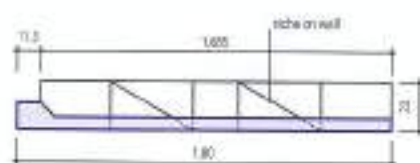
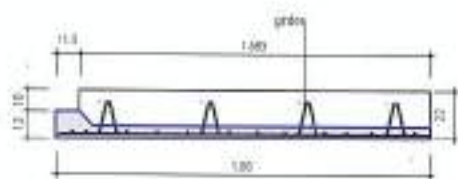
Emfil Spiral Stair



Emfil Stair fixed on Emfil landing



Legend:



Job		EF
Location		RAK
Description		
Client		Emirates Filigran
Job No		general sample-3/stair+details
Drawing No		F01
Date		04-01-09
Drawn		

If you have any questions please call:
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Emirates Filigran فيلكران الامارات



إمفل EMFIL

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بلاطات إمفل

بلاطات إمفل : هي بلاطات إسمنتية مسلحة مسبقة الصنع تغطي فيما بعد بطبقة إسمنتية تنماسك مع البلاطة بشكل متكامل.
بلاطات إمفل : عرضها 2.5 متر ويصل طولها إلى 10 م وتتراوح سماكتها 5-7 سم.
البلاطات مسلحة من الجهة السفلية وملساء جداً من الجهة الأخرى.
تعمل الحوامل على تدعيم البلاطات حين التركيب والتنشيط اللازم.

بلاطات إمفل خفيفة الوزن (125 كغ/م²) مما يجعل التعامل معها سهل أثناء الحمل. بإمكان رواقع الموقع أن تضع البلاطات في أماكنها المخصصة معدات الرفع موصولة بشبكة الحوامل التدعيم المؤقت يعمل على حمل أوزان البلاطات مع أغطيتها الإسمنتية.
بعد وضع **بلاطات إمفل** يمكن تمديد الأنابيب الكهربائية وبعدها يتم تركيب طبقة التسليح العلوية. ومن ثم يصب الإسمنت على البلاطات للوصول إلى السماكة المطلوبة والتنشيط اللازم.

EMFIL Slabs, Hollow-core Slabs and Hourdi Slabs

	Emfil Slab	Hollow Core	Hourdi Slabs
Unrestricted ground plan possibilities	+	-	-
All shapes of recesses possible	+	-	-
Monolithic structure achieved	+	-	-
Underside smooth, ready for putty/paint	+	-	-
Slab 100% even and plan	+	-	-
Ease of electrical and plumbing installation	+	-	-
Low weight (125 kg/m ² only)	+	-	-
Safe and easy handling	+	-	-
Sound proof	+	-	-
Flat ceiling without beams possible	+	-	-

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