



# SHORING AND FORMWORK EQUIPMENT SOLUTIONS

*Tebrau, Malaysia*

## CONSTRUCTION OF SHOPPING MALL REQUIRES FORMWORK & SHORING SOLUTIONS

The construction of the Toppen Shopping Centre, a large-scale commercial project, has been underway in Tebrau, Malaysia, since February 2022. It is expected that Tebrau, a town in the Johor Bahru District, will become a point of attraction for locals and Singaporeans due to the construction of this new shopping mall and other developments in the area.

## PARKING GARAGE INCLUDED IN AMENITIES

Promoted as the future of retail opportunities in Johor, the Toppen Shopping Centre will include amenities never available to the community until now. The new Toppen Mall construction includes a 10-level parking garage large enough to accommodate 6,000 vehicles. The success of this project relies on a great formwork and shoring solution.

## FORMWORK SOLUTION FOR AGGRESSIVE SCHEDULE

TSK Construction Sdn. Bhd., based in Malaysia, is a loyal EFCO user in the commercial building sector. Awarded with the contract to construct the Toppen Shopping Centre, TSK Construction chose EFCO as their formwork and shoring provider for building the 10-level parking garage. Challenged by the parameters of an aggressive construction schedule and minimum jobsite space, TSK Construction asked EFCO to provide a formwork and shoring package that would enable them to complete the parking garage in 365 days.

## PERIMETER ERECTION OF SHORING TABLES

Because of the limited construction time for the parking garage at the Toppen Shopping Centre, TSK Construction used EFCO's **E-Z DECK**® shoring tables at the perimeters of each floor. The EFCO E-Z DECK perimeter tables are for shoring the floor slabs and the perimeter

parapet walls that act as working platforms. EFCO's shoring system reduced the person-hours and materials needed for conventional perimeter scaffold erection and cleared the ground space required.

## TIMED DELIVERY OF EQUIPMENT

To avoid compromising TSK Construction's limited jobsite space, EFCO's E-Z DECK shoring tables, with their easy assembly features, allowed TSK Construction to build the tables on the ground quickly and hoist them into place with a crane. After the tables were placed and the yard was empty, EFCO efficiently scheduled subsequent trucks to be delivered.

## DELIVERING THE LOWEST IN-PLACE CONCRETE COST FORMWORK SOLUTIONS

The go-to shoring solution for high load capacities is EFCO's E-Z DECK shoring system. EFCO strives to provide the lowest in-place concrete costs for our customers. The E-Z DECK system helps achieve this, because it allows greater spacing between shore posts, up to 3 m x 3 m (10' x 10') and requires fewer person-hours to cycle from one place to the next, providing higher productivity than other competitive systems. Using the E-Z DECK shoring system enabled the crew to cycle a single table of 17.6 m<sup>2</sup> (190 ft<sup>2</sup>) in one crane pick, saving crane time and getting the tables repositioned efficiently and quickly. ▶



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### **SHORING SYSTEM THAT REDUCES DAMAGE TO PLYWOOD DECK**

EFCO's **E-Z DECK**® shoring system comprises lightweight, heavy-duty components and rigid connections. E-Z DECK towers can be moved in a single crane pick, eliminating dismantling and reassembling. Furthermore, moving this shoring system as one complete unit makes damage to the plywood deck less likely. This feature provides the contractor with significant cost savings compared to conventional methods by reducing the cost of their plywood purchase.

### **FORMWORK CYCLING OF ASSEMBLED COLUMNS**

TSK Construction used **EFCO LITE**® formwork to form the parking garage columns because the formwork design offers an entirely tie-less concrete column. EFCO LITE column formwork requires only three EFCO Quick Bolts per 2.4 m (8') tall corner connection. This minimal number of bolts allows for quick stripping and resetting of the formwork. Additionally, like E-Z DECK shoring towers, a fully assembled EFCO LITE column form can be picked by a crane and moved without disassembly, maximizing productivity. ▶



*EFCO LITE column formwork requires only three EFCO Quick Bolts per 2.4 m (8') tall corner connection.*



**TSK Construction completed ten slab-forming levels in five months.**

**FAST FORMWORK & FAST SHORING ALWAYS PAYS**

The TSK crew was able to cycle 5000 m<sup>2</sup> (54,000 ft<sup>2</sup>) of E-Z DECK<sup>®</sup> shoring in five days, significantly shortening their construction schedule. Increasing their pour schedule to two levels per month, TSK Construction completed ten slab-forming levels in five months, exceeding the requirement of the scheduled date.

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**EFCO EQUIPMENT**  
EFCO LITE<sup>®</sup> Column, E-Z DECK

**TSK CONSTRUCTION TEAM**  
Cheong K. M. .... Sr. Project Manager

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**WHY TRUST ANYONE ELSE?**

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