



Steel Fibre Reinforced Slab in Malaysia -Tesco DC

Newly formed [CoGri Malaysia Sdn Bhd](#) recently completed construction of a very special slab in Tesco's largest purpose built distribution centre in SE Asia. Sited North of Kuala Lumpur in Bukit Beruntung, the 416 metre long warehouse is a massive 50,000m² on a 25 acre plot of land which includes another 24000m² for future expansion. The main warehouse features 169 loading docks, 54,000 pallet spaces in 11 metre high selective racking.

Face Consultants prepared the design and specified the floor flatness as FM2 Special from the UK Concrete Society's Technical Report No. 34. This specification is for conventional wide aisle storage that may be converted to very narrow aisle in the future. The tolerances are designed to allow the conversion from conventional to narrow aisle racking storage with very little floor flatness upgrading required.

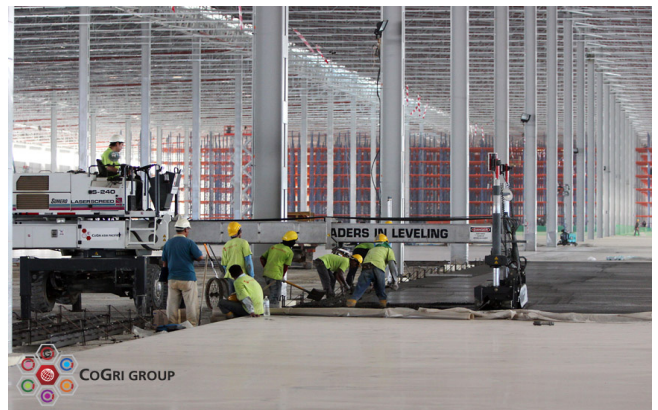
[Face Consultants](#) prepared the design and detailed specifications for the Malaysia DC which required:

- * 2.4 x 2.6m pile grid
- * 900 diameter pile heads
- * 200mm thick sub base
- * 210mm thick slab with 45kg/m³ HE+1/60 metal fibres
- * AD10 armoured Joints
- * 5 kg of fibre suppressant dry shake
- * Masterkure 181 Acrylic Curing System



Fibre Integration At Site

To avoid casting during the heat, batching plant staff mobilised at 2:30 a.m. and the first truck arrived on site at 4 a.m. For this type of construction the metal fibre is integrated in the concrete truck. CoGri Malaysia chose to do the fibre integration at site with a conveyor. Usually fibres are introduced at the batching plant but doing it at site



S240 Laser Screed®

conserves fibres in the event that a load of concrete is rejected upon reaching the site.

Following fibre batching the concrete was placed direct from the truck in 4 meter wide strips working left to right and then struck to tolerance with a

Somero

S240 Laser Screed®. The laser controlled head of the S240 Laser Screed® incorporates an auger which strikes the concrete and pushes excess material out to the right side of the twelve foot wide head; a vibrator and a finishing

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Client: Tesco, Malaysia
CoGri Asia Solution: Design and detailed specifications & floor construction
Floor Specification: TR34 FM2 Special



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blade smooth the just struck concrete surface. The only manual compaction of concrete done is around the perimeter joints to ensure that the load transfer dowels on the armour joints are fully enclosed with concrete. The last load of concrete was generally placed by 1 p.m. and finishing works completed seven to nine hours later.

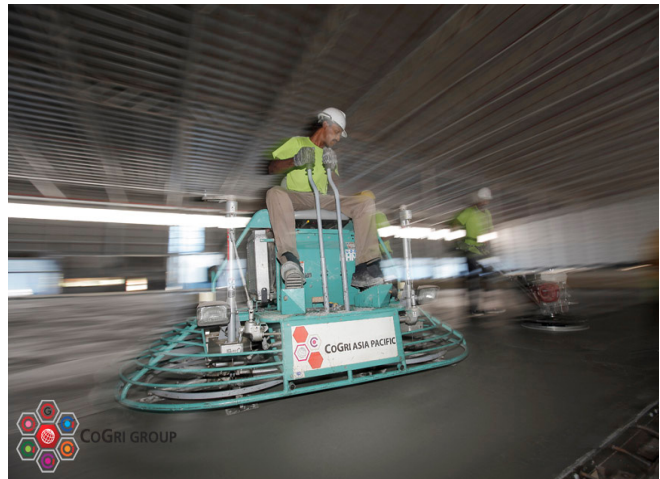
Twenty days into casting, the racking and racking sprinklers erection started.

Material used and production statistics for the 41 casting days are as follows:

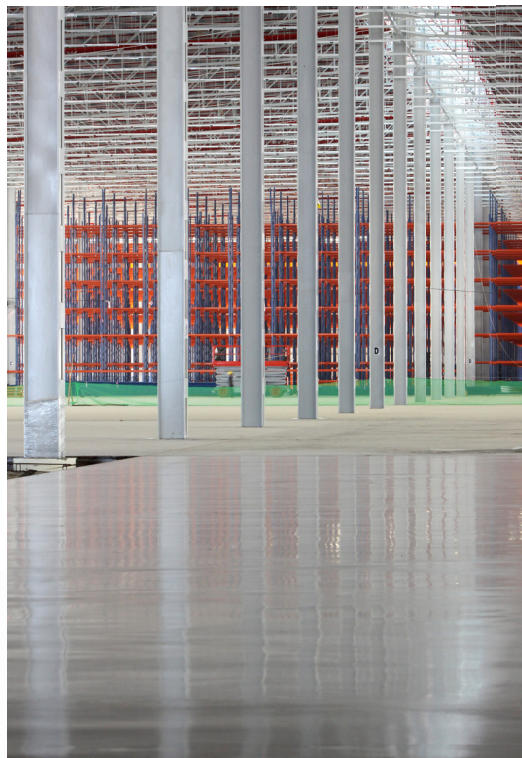
- * 10,500m³ of concrete placed
- * 47 tonnes of fibres used
- * 39 man team including site management x 41 casting days:
 - Approximately 2000 total man days
 - 0.039 man days per square meter of floor
 - 0.19 man days per cubic meter of concrete

The project was completed on time and our team was demobilised from the site starting from the first week of June.

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Finishing By Power Trowel



Finished Floor



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