

# Salalah Airport, Oman

Client: OAMC  
Contractor: Larsen & Toubro Oman LLC  
Location: Salalah, Oman  
Products: Rapidshor / Albeam / GTX Beams /

## Case Study

RMD Kwikform Oman supplied Larsen & Toubro Oman LLC with a shoring solution to support construction of the new Salalah International Airport, which will cater services for up to 1 million passengers per year. The \$765 million project involved the construction of a Passenger Terminal Building, an Air Traffic Control Tower and 8 ancillary buildings, Roads & Bridges.

Located in the southern region of Oman, Salalah is a popular tourist destination for both visitors from the Middle East and abroad. Improved infrastructure was needed to support the rising influx of people travelling to Salalah, and the construction of a new airport was awarded to a joint venture between Larsen & Toubro India and Galfar Engineering. The project was divided into 2 segments –

- a. Buildings & Air Traffic Control Tower;
- b. Roads & Bridges.

The Buildings section was then subcontracted to Larsen & Toubro Oman LLC, who approached RMD Kwikform to provide a shoring solution to support construction of the terminal building, and ancillary buildings.

James D'Souza from Larsen & Toubro Oman said, "Having worked with RMD Kwikform Oman on a number of previous projects, including the Athaiba Flyover in 2011, we were confident that their equipment and engineering expertise would enable us to complete construction to schedule, and to budget. We were faced with the challenge of casting the first level of the passenger terminal building in just six months. With this in mind, it was important to know they had the access to equipment and logistical experience to put the infrastructure in place to help us meet this tight deadline."

A wide range of RMD Kwikform shoring equipment was used on the project, including 120kN Alshor Plus, 80kN Rapidshor, Aluminium Albeam and GTX timber beams. Different design solutions were devised for each of the buildings based on the thickness of the slab being supported.

Commenting on the project, Bellphine Campbell from RMD Kwikform said: "We had to supply shoring for a slab area of more than 40,000m<sup>2</sup>, making this a large scale project that demanded an incredibly high level of efficiency and communication between the design and construction teams. This was particularly important to meet the initial deadline for the passenger terminal building. The structure had numerous 1-metre high plinth beams, and L&Toman didn't have time to backfill to start shoring. We solved the problem



by spanning the Alshor frames over the plinth beams, saving time for the contractor without having to use additional equipment.

The weight of the slabs and beam depth was also different in each building, so we utilised a full range of shoring equipment to provide the customer with the safest, most cost-effective solution. For example, the passenger terminal building had 1.50m deep beams, so we used a steel Rapidshor shoring system, which has a maximum tolerance of 80kN. The slab in the data centre has less beams and had 800mm deep ground beams, so we used Alshor Plus shoring, which can span over the ground beams.

In the passenger terminal building, standard braces were used to lace the Rapidshor. This varied slightly from the data centre where the Alshor Plus was laced together using lacing tubing provided by the client. Rapidshor drop beam support brackets were also used to support the deep and dense beams of the slabs. This reduced the number of components needed, reducing labour costs, erection time and increasing productivity.

Bellphine continued: "In some sections, decking was constructed using a combination of primary Albeams and secondary GTX beams, while in specific areas, only GTX beams were used. This system was made using fully reusable material, further reducing costs while maintaining and improving erection times."

Throughout the project RMD Kwikform has provided continuous sales support, technical support and site assistance, helping L&T Oman to use its shoring system effectively and safely.