

Case study:

Alimak twin-cage hoist helps build Turkey's tallest tower



Sapphire Tower, Istanbul, Turkey, 260 m



Examples of tall buildings and structures where Alimak construction hoists or permanent lifts have been installed:

- Konstantynow Radio Mast, Poland (destroyed), 646 m
- Abraj Al Bait Towers, Mecca, Saudi Arabia, 595 m
- CN Tower, Toronto, Canada, 550 m
- Taipei 101, Taipei, Taiwan, 508 m
- International Commerce Centre, Hong Kong, China, 484 m
- Troll A oil production platform, North Sea, 472 m
- Petronas Towers, Kuala Lumpur, Malaysia, 452 m
- Jin Mao Tower, Shanghai, China, 421 m
- Two International Finance Centre, Hong Kong, China, 415 m
- CITIC Plaza, Guangzhou, China 391 m
- Shun Hing Square, Shenzhen, China, 384 m
- Gullfaks C, North Sea, 380 m
- Central Plaza, Hong Kong, China, 374 m
- Bank of China Tower, Hong Kong, China, 367 m
- Emirates Tower I, Dubai, UAE, 355 m
- Tuntex Sky Tower, Kaohsiung, Taiwan, 348 m
- Electricity transmission towers, China, 346.5 m
- Viaduc de Millau, France, 343 m
- Burj Al Arab, Dubai, UAE, 321 m

Sapphire Tower, Istanbul, Turkey

Alimak Scando hoists helps contractor meet aggressive construction schedule for 54-story tower

The fast, efficient, and compact vertical transportation system from Alimak Hek is used to move people and materials between floors of Turkey's tallest building, the Sapphire Tower in Istanbul. By reducing demand on the project's tower crane, the Alimak Scando hoists is helping Contractor Biskon Construction keep up with the fast-paced construction schedule.

Contractor Biskon Construction is using an Alimak Scando 20/32 TD hoist in conjunction with a single tower crane for materials lifting and for manpower transportation on the Sapphire Tower in Istanbul.

An Alimak dual-cage passenger and materials hoist is helping to construct Turkey's tallest building, the Sapphire Tower in Istanbul, which at 261 m has a total of 54 floors.

Under construction by Biskon Construction since 2006, the building was topped out in the middle of this year and is due for completion in 2009.

Alimak Hek's distributor in Turkey, Atilla Dural supplied the hoists.

Moving men and materials

The hoist, running off a central mast fixed to the side of the building, is being used to transport men and materials to all stages of the tower, and is working in conjunction with a tower crane that has also been fastened to the side of the building and which has lifted materials as the structure rises story by story.

The Sapphire Tower is a residential, leisure and shopping center project, located in Istanbul's business and residential district of Levent.

Designed by Tabanlıoğlu Mimarlık ve Danışmanlık for developers the Kiler Group, the tower has special energy saving features and indoor gardens at various levels. Every tenth floor is planned as a recreational area, and there will be a golf practice area at 163 m.

The façade consists of a double skin that protects the interior from adverse weather and acts as a buffer between the interior and outside world, reducing noise pollution for residents.

Fast and compact

The total area of the building is 157,800 m², with the shopping mall taking up 35,000 m² of space. Six underground levels will provide parking, and there will be a station for the Istanbul metro.

Project manager Mustafa Sakarya says that, with a site area of only 11,500 m² and an aggressive construction schedule, it was necessary to have a fast and compact transportation system.



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With a two-ton load capacity, ample floorspace, and a top speed of 40 m/min, the Alimak Scando 20/32 TD hoist provides Contractor Biskon Construction with the ability to quickly move personnel and materials to the floors where they are needed.

“We decided that the combination of a single tower crane and a dual-cage hoist would meet the requirements for covering the relatively small footprint of the building, even though we were going up to 54 stories,” he says.

“The Alimak hoist has therefore been used to lift materials and men to all stages of the structure. It has a maximum lift speed of 40 m/min, and this, combined with the two independent cages, has allowed us to meet our schedule.”

Mr. Sakarya says that safety was also a prime factor in choosing Alimak. The installation makes full use of the mast-sharing potential offered by the drive unit that occupies only one side of the square mast, leaving the opposite side free for another independent platform to operate.

Each of the two cages has a two-ton load capacity, and measures 1.5 m wide, 3.2 m in length, and 2.55 m high. Not only has the hoist proved suitable for bulk materials such as bags of cement and pallets of tiles, it has also been able to handle lengths of ducting and piping.



DETAILS

Location	Sapphire Tower, Istanbul, Turkey
Hoist type	Alimak Scando 20/32 TD II
Number of cages	2
Capacity	2,000 kg/cage
Cage size, internal	1.5 x 3.2 x 2.55 m (W x L x H)
Speed	40 m/min
Lifting height	260 m

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