

Case study:

Alimak hoists speed construction on record-breaking Madrid towers



Torre Caja Madrid, Cristal, & Espacio, Madrid, Spain



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

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Record-breaking Madrid towers rising fast with help of Alimak hoists

Madrid's skyline is being changed dramatically with the help of some of the tallest Alimak construction hoists ever used in Europe.

The Alimak Scando 650 hoists are providing quick and easy access during construction of Spain's tallest skyscraper and two neighbouring towers that will stand almost as high. By the time of their completion next year they will be among Europe's tallest buildings, standing at 250 m.

Five Alimak Scando 650 systems with a total of eight hoist cars are being used in the construction of the Torre Caja Madrid and its neighbors in Madrid's new Cuatro Torres business district.

All three buildings have very different designs, but the Alimak Scando 650 system was configured to suit the needs of each thanks to its modular design. Easily adaptable to different applications using relatively few components, the system offers considerable flexibility, with a choice of single or dual car arrangements with options for different car sizes, door locations and capacities.

Within range

The ultra-fast 66 m/min speed of the Alimak Scando 650 system minimizes the time spent transporting people and materials to the current worksites, while a generous 2.5 ton payload capacity and 3.2 m car lengths ensure that the hoists can cope with even the largest loads. In addition, the system's highly-efficient gearbox decreases power consumption by up to 40% compared to earlier models.

Despite their height, the buildings are well within the operating range of the Alimak Scando 650. The 250 m high Torre Caja Madrid – tallest of the trio of buildings featuring Alimak hoists – will take the record for Spain's tallest building on completion in 2007.

The second highest Alimak system is being used on the neighboring Torre de Cristal, which is just as impressive, standing a mere 890 mm shorter than Torre Caja Madrid. Even the "shortest" of the three, Torre Espacio, will be more than 40 m taller than today's national record holder and more than 60 m higher than the tallest building in the city.

The current national record has been held since 2002 by the 182 m tall Gran Hotel Bali in Benidorm. Madrid's tallest tower is currently the 157 m tall Torre Picasso, built in 1998 – also with the help of Alimak hoists.

Smooth ride

For Torre Caja Madrid, the vertical transport solution has proved to be two single Alimak Scando 650 25/32 FC hoist systems, positioned in shafts. The 249 m tall Torre Crystal is fitted with a pair of dual hoists, while the 223 m Torre Espacio has one dual Alimak system.

Although the 45-story Torre Caja Madrid is the tallest of the towers, there are more floors on Torre Espacio, which has 56. The frequency control drive system of the Alimak Scando 650 gives smoother stopping and starting, making it ideal for use on buildings with so many levels.

Case study:

With a total of eight cars, the five Alimak Scando 650 systems assisting with the construction of Spain's tallest skyscraper and two neighboring towers are providing fast and efficient vertical access for both people and materials.



DETAILS

Location	Torre Caja Madrid, Madrid, Spain
Hoist type	Alimak Scando 650 25/32 FC, inside shaft
Number of cars	2
Capacity	2,500 kg/car
Car size, internal	1.5 x 3.2 x 2.3 m (W x L x H)
Speed	66 m/min
Lifting height	250 m



DETAILS

Location	Torre de Cristal, Madrid, Spain
Hoist type	Alimak Scando 650 25/32 FC II
Number of cars	4
Capacity	2,500 kg/car
Car size, internal	1.5 x 3.2 x 2.3 m (W x L x H)
Speed	66 m/min
Lifting height	249 m



DETAILS

Location	Torre Espacio, Madrid, Spain
Hoist type	Alimak Scando 650 25/32 FC II
Number of cars	2
Capacity	2,500 kg/car
Car size, internal	1.5 x 3.2 x 2.3 m (W x L x H)
Speed	66 m/min
Lifting height	223 m

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