

Bespoke solutions direct from the manufacturer

Tower Crane Solutions



LIEBHERR

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Airport extension in Santiago de Chile



23 Liebherr EC-B and EC-H series tower cranes

The Liebherr Tower Cranes Division is once again demonstrating its expertise in airport construction – a total of 23 Liebherr tower cranes is working on the expansion of the “Santiago Nueva Pudahuel International” in Chile, 15 flat-top cranes and three high-top cranes have already been erected and are providing excellent load handling services.

The airport in Santiago de Chile is building on its reputation as one of the most important hubs in South America. The operators are expanding the site to 265,000 m² and have placed an order for an additional terminal. When it is completed, the airport will more than double its overall capacity to 30 million passengers per year. The number of passenger boarding bridges will rise from 18 to 67. The number of car parking spaces will also be doubled.

Liebherr tower crane fleet in action

The developer is completing the project using 23 Liebherr tower cranes. Seven 250 EC-B 12 Litronic cranes, four 150 EC-B 8 Litronic cranes and a 280 EC-H 16 Litronic have already been erected by Liebherr-Chile S.p.A. In addition, six cranes from Chilean dealer Maquinarias Cruz del Sur are already in action – a 280 EC-H 12 Litronic, two 200 EC-H 10 Litronic and three 90 EC-B cranes. Since the end of 2016, the 18 tower cranes have been operating in double shifts on the site with jib lengths of 45 to 60 m and hook heights of 17 to 45 m. At the current time, around 70 percent of the work on the airport has been completed. Additional Liebherr tower cranes will be required to build the car parks – probably three 110 EC-B 6 cranes and two 154 EC-H models.

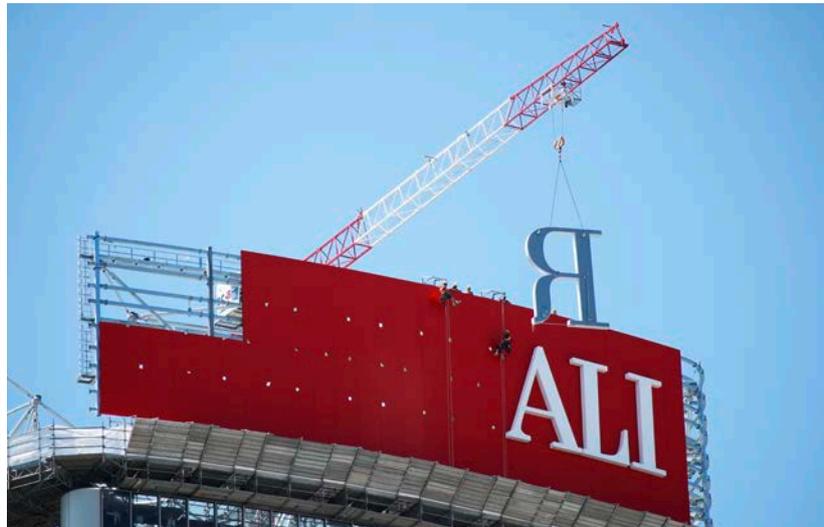
The main reason behind the Vinci-Astaldi consortium choosing Liebherr cranes was the fact that there is a branch office actually in Santiago. Furthermore, in addition to the Liebherr tower cranes from its fleet, dealer Maquinarias Cruz del Sur offered the customer a package comprising the erection, service and crane operators for all the cranes. Meanwhile, Liebherr-Chile S.p.A. sent a senior service technician to provide support – a really good all-round package for the customer.

Limited erection height for cranes

Liebherr's Tower Crane Solutions Project Department advised and helped the consortium in planning how to cover the large construction site in the most cost-effective way. The important things during planning are to select the correct crane types, their quantity, positioning and dimensions. The construction site situation plays a major role in this process. For airport construction, for example, the maximum crane heights are very limited. To ensure that it is possible to operate lots of cranes in a very constricted area, the service technicians erected a 250 EC-B 12 Litronic flat-top crane on rails for building one of the terminals. This means that the crane can cover a large part of the site and when it is not operating, it can be moved into a position in which it can slew freely. For additional safety, all the cranes are fitted with an anti-collision system supplied by French manufacturer AMCS technologies.

There have been several rounds of negotiations regarding the airport in Santiago with the consortium especially created for this project between construction contractors Vinci and Astaldi since October 2015, with the contract being signed together with dealer Maquinarias Cruz del Sur in mid-September 2016.

City life in Milan



Helicopter erection of an 85 EC-B on the Torre Hadid

Full concentration for the installation of a giant illuminated sign over 100 metres in the air – technicians from Italian Liebherr dealer Niederstätter erected a tower crane for this purpose in spring 2018 on one of the highest and best-known tower blocks in Milan. Liebherr's Tower Crane Solutions provided advice and assistance for planning this spectacular job.

The 170-metre high "Torre Hadid" in Milan (also known as "Lo Storto" – the Twisted One) was designed by world-renowned architect Zaha Hadid. The tower block is now owned by insurance group Generali, which wanted to install a giant illuminated sign on the building. In the search for a suitable tower crane for this job, contractor C.M.B. (Cooperativa Muratori e Braccianti di Carpi) consulted Liebherr Tower Cranes.

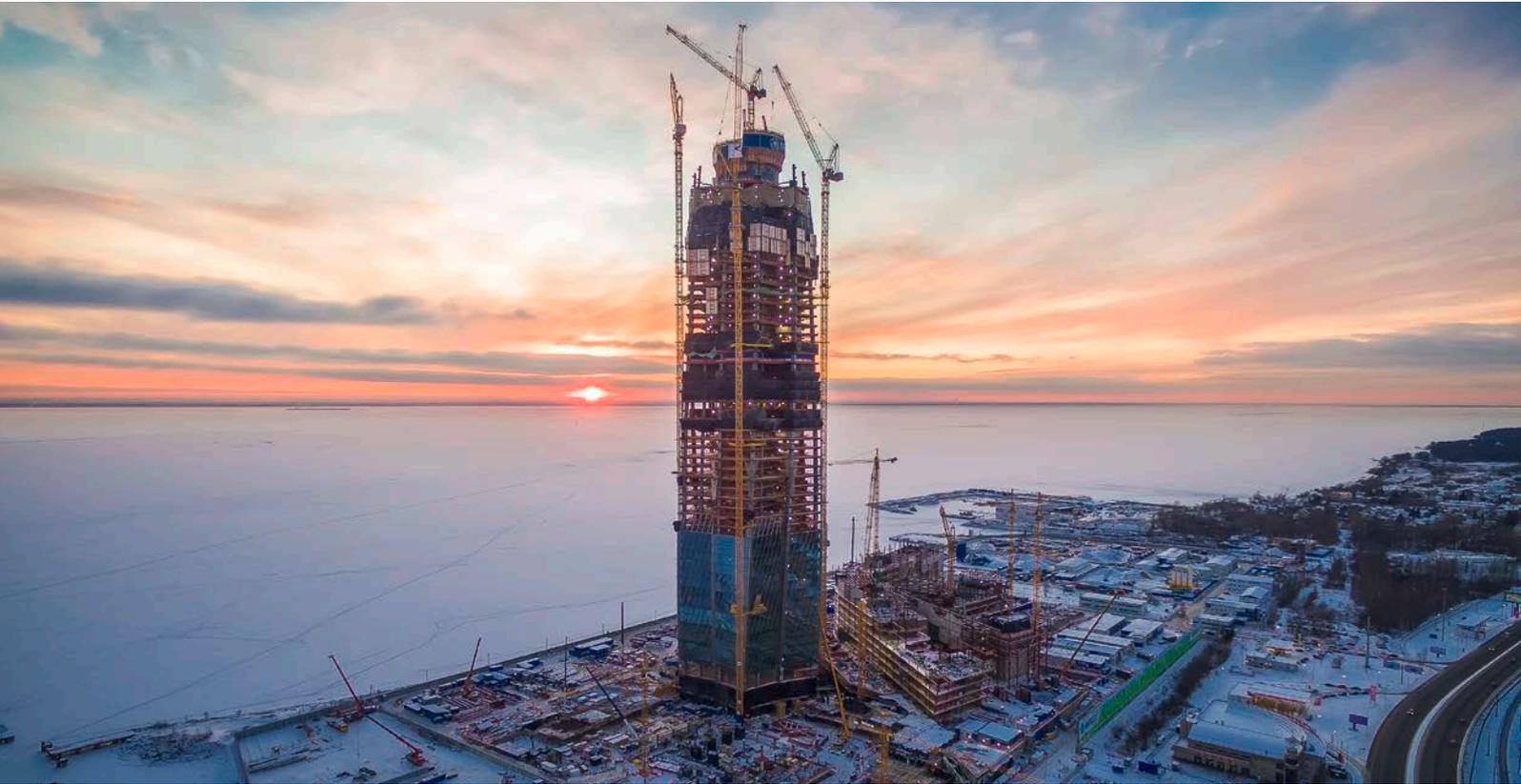
The challenge was that the crane had to be erected by helicopter at an altitude of 170 metres.

The main challenge was to erect and anchor the crane on the roof of the building. The experts at Liebherr's Tower Crane Solutions Department created the perfect solution for this together with the engineers from Niederstätter AG – erecting a 85 EC-B by helicopter. The bottom tower section was placed on so-called anchor shoes, which in turn were connected to the concrete roof on the tower block. This meant that neither the crane undercarriage nor central ballasts slabs had to be transported upwards.

At dawn on the day of the crane erection, a heavy-duty helicopter from Heliswiss rose from the ground to take the first section of the 85 EC-B from the Niederstätter AG rental park to a height of 170 metres. After several flights over the course of two and a half hours, the service technicians had completely erected the Liebherr tower crane. The hoisting work was started immediately after the crane had been commissioned and the personnel had received induction training. Around 200 tonnes of steel had to be moved for the installation of the giant illuminated sign. After a construction period of around two months, the tower crane and anchor shoes were removed – again by helicopter.

Hundreds of passers-by watched the crane being erected live – an extraordinary spectacle in the centre of Italy's fashion capital for which our long-term partner Niederstätter provided sterling work.

The highest building in Europe



Seven HC-L and three EC-H cranes on the Lakhta Center in St. Petersburg

A total of ten Liebherr tower cranes are currently or have been in action building the Lakhta Center in St. Petersburg, Russia. The construction project includes the highest building in Europe, the Lakhta Tower, and an adjoining multi-purpose building complex. Three 710 HC-L 32/64 Litronic luffing jib cranes and one 357 HC-L 12/24 Litronic were used for the construction work on the tower. Three 357 HC-L 12/24 Litronic luffing jib cranes and three 280 EC-H 12 Litronic high-top cranes are in action on the multi-purpose building complex.

The Lakhta Tower, designed by British architects RMJM, at a height of 462 metres will primarily house the head office of energy group Gazprom. It also provides other office space, sports facilities, a technical park for children, a planetarium, a panoramic restaurant, a viewing terrace and much more on the 330,000 m² site. Work on the Lakhta Tower has already been completed. The completion of the multi-purpose building is scheduled for 2019.

High performance at extreme heights

Particularly powerful large cranes were required for a tower with such an enormous height. The 710 HC-L 32/64 Litronic has a maximum lifting capacity of 64 t, making it the largest luffing jib crane available from Liebherr. All three 710 HC-L cranes were equipped with innovative 2 x 110 kW Dual Drive SD.shift hoist units and 160 kW luffing gear which enables hoist speeds of up to 176 m/min to be achieved. These cranes climbed on the outside of the building while the 357 HC-L 12/24 Litronic climbed inside it. The latter crane featured a 110 kW hoist unit.

The three Liebherr 710 HC-L 32/64 Litronic luffing jib cranes were in action with radii of 45, 50 and 60 metres. This enabled them to cover the site perfectly and build the heavy steel skeleton for the tower. Using the efficient 24 HC tower systems, the cranes climbed over 400 metres on the outside of the building with one of the luffing jib cranes being responsible for positioning the tower head at a tower height of approximately 440 m. The smallest crane of the four, a 357 HC-L, worked its way towards the others and was primarily used for concreting the core of the building.

Experience counts

The Lakhta Tower was completed in 2018 when its height of 462 m and 87 storeys made it the highest building in Europe. That made it higher, for example, than the Federation Tower in Moscow, in whose construction Liebherr also played a leading role. In addition to the performance of the cranes themselves and the good preparation and monitoring of the project by the Tower Crane Solutions Department, this is one of the reasons why contractor Renaissance Construction and rental company Sutek chose Liebherr cranes.

During 2019, a multi-purpose building complex comprising a planetarium, cinema and theatre, among other things, will be completed on the Lakhta Tower site. Several Liebherr tower cranes are also in action erecting this building. To ensure that the cranes can slew freely even in constricted conditions, three 357 HC-L luffing jib cranes were combined with three 280 EC-H 12 Litronic high-top cranes. The customer's requirement was that the cranes should be erected without tie-ins onto the building. This is why Tower Crane Solutions planned tower combinations which make a free-standing height of up to 95 m possible.

We are just a little bit proud of being part of this prestigious project and look forward to its completion during 2019.

Complete solution for modern construction



HC-L luffing jib cranes working on the Axel Springer new build

It will become the showcase project of the “New Way of Work” in Germany. Right in the middle of the age of the digitalisation of print media in the media industry, everything possible is currently being done to think and work out of the box. We are talking about the Axel Springer new build in Germany’s capital – and we at the Liebherr Tower Cranes Division are part of it.

With a floor area of 52,200 m² split over 13 storeys, the building at the heart of Berlin provides its “residents” with everything they need to enable them to work in an agile, dynamic environment with no rigid structures. Similar to a university where the students have the urge to research and develop, the idea here is to create new, pioneering results in the media industry. In addition to the general modern method of working within the new publishing building, attention has also been given to the use of the very latest materials and construction methods.

Luffing jib cranes from the Liebherr rental fleet

Liebherr Tower Cranes is also playing its part to ensure the project is a success. Six luffing jib cranes from Liebherr’s own used and rental crane centre, the Tower Crane Center, are providing sterling service on the site. Four 357 HC-L 18/32 Litronic and two 280 HC-L 12/24 Litronic cranes are responsible for almost all the lifting work – fitting steel, transporting concrete, installing the façades, unloading trucks and much more. The 357 HC-L cranes are operating with tower heights of up to 77 metres and radii of up to 50 metres. The luffing jibs mean that the hook height is almost 130 metres. The two 280 HC-L cranes each have a tower height of 58 metres and a radius of 40 metres.

Individual solution from Tower Crane Solutions

Our department for bespoke tower crane solutions, Tower Crane Solutions, provided advice and practical assistance to the customer when planning the large construction site. The decision was made to use six luffing jib cranes which cover the site perfectly and, as a result of their maximum lifting capacities of up to 32 tonnes, are ideal for hoisting heavy prefabricated components.

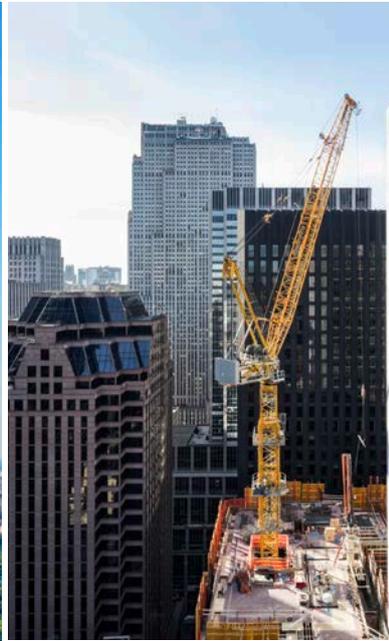
Tower Crane Solutions also created several special solutions with the customer – the following being an example. To ensure that the access point is freely accessible to site vehicles, one of the 357 HC-L cranes is positioned on a portal measuring 8 x 8 m. This means that materials can pass under the portal for delivery to the site. Two other 357 HC-L cranes are assembled on foundation anchors within the building. The foundation for the building is also used as a foundation for the crane. A 357 HC-L crane is outside the building on the actual street on an undercarriage measuring 8 x 8 m. This requires less space than a foundation specially built for the crane. The same is true of the two 280 HC-L cranes.

The cranes are in action six days a week and ten hours per day. We also have a service partner almost on the site for our customer. Berlin-based Liebherr dealership Wasel can guarantee fast, reliable 24/7 service. This was also one of the main reasons behind the customer choosing Liebherr tower cranes. Furthermore, Wasel GmbH also provided assistance with the assembly of the cranes – a rather tricky task in the heart of Berlin due to the constricted space available.

German building contractor Züblin is the general contractor for the Axel Springer new build. Züblin was awarded the order at the beginning of 2015 and has supported the project from the initial design to the planning permission – jointly with Axel Springer, architecture agency OMA based in Rotterdam and the planning team.

Tower Crane Solutions has also come up with a smart concept for dismantling the cranes. At the start of 2019, the outer luffing jib cranes will dismantle the inner ones. The six cranes from our Tower Crane Center will have worked on the Axel Springer new build for a total of two years before they are sent to their next job.

Performance in the Big Apple



Three HC-L cranes in action on the MoMA Tower in New York

A total of three luffing jib cranes and a derrick will be in action on site up to the completion of the MoMA Tower, which at 320 metres, is already one of the tallest buildings in New York. Tower Crane Solutions provided advice through out the planning and completion phases of this major project.

Three storeys will become additional exhibition space for the Museum of Modern Art, whilst 139 luxury apartments will be spread over the remaining floors. There is even space for a wellness area with swimming pool, fitness studio, squash and golf simulator. The construction essentially took place in four stages.

Stage one: Erection of the first 710 HC-L

The erection of the 710 HC-L, which marked the start of the site, was in itself an impressive performance by our dealer Morrow. In an extremely constricted space in the centre of Manhattan, its service technicians erected the complete luffing jib crane in less than one day. Good preparation and the experienced erection team meant that the road closure for building the MoMA Tower 53W53 (53 West 53rd Street) was minimised. The crane operated with a maximum radius of 45 metres, climbed to a height of 131 metres and constructed the building on its own until that point.

Step two: Twin brothers erected and dismantled each other

As the construction work continued, the original 710 HC-L then erected another 710 HC-L. This crane was placed on a platform specially designed and built for this crane erection process on the 20th storey, around 100 metres above the ground. It climbed to a final height of over 300 metres above the ground, and was secured to the building using very few tie rods thanks to the 24 HC tower system where it was able to withstand even hurricane-force winds. The two cranes then worked together for a short period. But as soon as the first crane had completed its work, the second crane dismantled it. The majority of the building was then completed by the 710 HC-L erected on the platform.

Step three: A smaller luffing jib crane joined the project

Since a smaller luffing jib crane was enough to finish the final section of the building work, the method used in step two was repeated – the 710 HC-L which was still in position at this point, erected a 542 HC-L on a platform on the outside of the building, this time on the 63rd storey, in other words at an altitude of around 260 metres. This smaller luffing jib crane then immediately dismantled the 710 HC-L. This meant that the lower section of the building's facade could be completed at the same time as the work at the top since the platform and the crane anchorings had already been removed.

The final hoist of the trapezoidal top of the building was a real highlight and the crane operator was able to position it perfectly at an altitude of 320 metres thanks to the powerful heavy duty driving units and Micromove fine positioning mode.

Step four: The last one out clears up

The 542 HC-L had to be dismantled once the building had been completed. The best tool for this job was a derrick crane as there would be no need to use a crane for its subsequent dismantling which instead could be handled by simple lifting gear – dismantling cranes can be broken down into individual components which can be lowered to the ground in elevators within the building.

During the construction of the MoMA Tower, our tower cranes provided some impressive performances for moving over 100 crane components, over 7000 tonnes of reinforcement steel and over 37,000 cubic metres of concrete. This would not have been possible without the good teamwork between Tower Crane Solutions and our dealer Morrow and the Sorbara Construction building contractor. This is a partnership based on mutual trust and fairness.

Building with concrete modules made easy



Two 1000 EC-H cranes on the Clement Canopy in Singapore

The first PPVC structure built exclusively of concrete on the island has been built in Singapore. Lots of heavy prefabricated concrete parts had to be hoisted for this purpose. Building contractor Dragages Singapore used two Liebherr flagships for this purpose – two 1000 EC-H 40 Litronics.

The main customer used the two high-top cranes to install the 40-floor “The Clement Canopy” – an apartment construction project using the first version of the PPVC system (prefabricated prefinished volumetric construction) to be made entirely of concrete. Even though this method of construction has already been used in other countries, this is the highest building project in the world to use this process.

The most powerful crane in Singapore delivered

Kevin Lai, Senior Methods Manager for “The Clement Canopy”, explains: “The Clement Canopy is our first project for which the modules are made entirely of concrete and are very heavy – the heaviest module weighs 29 tonnes.” With a maximum lifting capacity of 40 tonnes, the two Liebherr tower cranes are the most powerful ever to have been imported into Singapore. They are ideal for hoisting heavy prefabricated concrete components like these.

Building specifications imposed by the government and customer requirements satisfied

At the end of 2014, Singapore awarded PPVC construction orders for selected regions and monitored the application of this system very closely since its objective was to use this building method to improve productivity on sites. Dragages Singapore was awarded the order to work on “The Clement Canopy” project by United Venture Development. The project consists of two towers, comprising 505 apartments with a total floor area of 46,000 square metres. Under the regulations of the Singapore government, 65 percent of the construction above ground had to be built of reinforced concrete PPVC modules.

Kevin Lai explains that Dragages worked with ADDP Architects during the planning phase to improve the layout, divide the residential units into modules and ensure that one tower crane could be used to build each block. It was calculated that the heaviest module would weigh 29 tonnes whilst the lightest would be just 17 tonnes. Dragages then checked the crane market to find suitable products.

Decision made in favour of the Liebherr full package

As a result of previous jobs in Singapore and Hong Kong, the company is familiar with Liebherr cranes and reduced its selection to three crane manufacturers by means of an exclusion process. Ultimately, the main reasons for choosing Liebherr included lifting capacity, reliability, customer service in Singapore, technical support from the Tower Crane Solutions Department and an attractive quotation package.

Another advantage was the size of the tower crane elements: “The size of the tower sections of 2.4 x 2.4 metres made transport easier without increasing costs and also reduced the space requirement on the site. We will certainly consider using these cranes again in the future if we receive similar orders”, says Kevin Lai.

Customers supported during the construction process

Liebherr compiled all the documents which were required to ensure a smooth acceptance procedure of the two flagship cranes. The cranes then finally arrived in December and January and were erected within four days.

“The modules have to be positioned to an accuracy of two millimetres as any larger discrepancies could adversely affect the alignment of the entire building”, says Seng Swear Wern, Civil Production Manager for the project. To ensure that this is possible, the Liebherr tower cranes feature Micromove fine positioning mode. The crane operators are Dragages personnel and received the appropriate training from Liebherr-Singapore Pte Ltd.

With a jib length of 35 metres, both cranes were able to operate from a fixed position outside the two towers and grew as the structure rose as they were connected to a non-modular element of the building. In total 1866 modules had to be installed. The two Liebherr flagship cranes operated for more than a year and proved their fantastic capacity and reliability.

From planning to dismantling from a single source



1000 EC-H at a cement works in Schelklingen

The Liebherr Tower Cranes Division planned and completed a job for a 1000 EC-H 50 Litronic in Schelklingen down to the very last detail. A new clinker production line is currently being built there whilst the cement works continues to operate normally.

After Thyssenkrupp AG had been awarded the order by the customer HeidelbergCement, the planning phase conducted by the Liebherr Tower Crane Solutions Department working closely with Thyssenkrupp started in mid-2015. Together the team developed the most economical solution for the construction of the production line using a 1000 EC-H 50 Litronic tower crane.

Since the new plant had to be built whilst the cement works continued to operate normally, there was very little space available for the crane. This meant that only a tower crane could be used since there was not enough space for any other type of crane system. The Liebherr 1000 EC-H 50 Litronic tower crane is able to hoist the highest planned load of 32 t with a radius of 31.5 m with ease.

A 1000 EC-H 50 Litronic from the fleet of the used and hire centre for tower cranes, the Tower Crane Center, was used for the job. The service package naturally also included the provision of Liebherr erection engineers. This meant the customer received everything needed directly from the manufacturer – all from a single source.

In mid-February, the tower crane was erected by two Liebherr mobile cranes, an LTM 1500 and an LTM 1100 provided by Felbermayr subsidiary Wimmer Maschinentransporte. For the construction of the new clinker production line, the tower crane was erected in free-standing form up to 77.9 m and at a later date, using three guying systems on the building it will achieve a final hook height of 163.4 m and operate with a radius of up to 50 m. It is due to continue working in Schelklingen until mid-2018.

Power plant construction in Greece



A dozen EC-B, EC-H and HC-L series tower cranes in Ptolemaida

Greek building contractor Terna S.A. purchased a dozen Liebherr tower cranes for the construction of a lignite power plant in Ptolemaida – an industrial and mining region in northern Greece, around 500 km from Athens. The experts from our Tower Crane Solutions Department provided support for planning and completing the project.

The department started work on the project months before the actual building work commenced. The very concrete ideas held by the customer proved to be particularly challenging – the project manager developed a special solution with Terna S.A. This included everybody concerned remaining fully aware of the increased safety requirements on such large sites.

Sophisticated system – an EC-H erected and then dismantled the luffing jib cranes

This meant that the building contractor finally ordered a 630 EC-H 40 Litronic, six 200 EC-H 10 Litronic, a 202 EC-B 10 Litronic, a 250 EC-B 12 Litronic, two 180 HC-L 8/16 Litronic and a 280 EC-H 12 Litronic in the special version for cooling tower construction. This special version looks like this: The crane has a jib folding device using which it can reduce its jib length from 70 metres to around 40 metres in four stages. This means that the 280 EC-H can climb down inside the cooling tower when the work has been completed.

The 280 EC-H was configured with a final hook height of 186 metres so that it could slew over the 170 metre high cooling tower and install components on it. In addition, for example, the 630 EC-H was set up with a hook height of almost 190 metres so that it can erect and dismantle the two luffing jib cranes on the stair towers.

Terna started work on the 660 MW power plant in summer 2016, with the construction scheduled for five to six years. The Greek building contractor was founded in 1972 since when it has been involved in the completion of public and private projects. These include rail and motorway networks as well as high-quality office buildings, hospitals, museums, resorts, hydroelectric plants, dams, ports and industrial plant. Today, Terna is the construction arm of the GEK Terna Group.

As a result of its significantly higher efficiency level, the modern lignite power plant at Ptolemais will not only require much less fuel, but will also emit significantly less carbon dioxide than existing plants in Greece.

We are delighted by the confidence shown in our crane experts for this special project and are pleased to be providing support throughout the entire construction period.

Time-tested in mines



Large cranes in South America

Copper and other raw materials are becoming increasingly important. This situation is resulting in a massive expansion in mining capacities. Over the past few years, Liebherr tower cranes have proved to be ideal for both building mines and for their subsequent maintenance. Tower Crane Solutions particularly recommends the 630 EC-H and the 1250 HC for projects of this type. But other large cranes such as the 1000 EC-H are also ideal for mining projects. Chile is a prime example with a whole host of mines.

Reliability is particularly important for mine operators when selecting their cranes. Only if they operate reliably over the full service life of the plant, will the investment pay dividends. In addition, it must be guaranteed that the very expensive plant components can be moved safely and sensitively. The full range of Liebherr tower cranes meet these two requirements in full.

Another plus point is the presence of Liebherr Chile in the immediate vicinity – including the provision of its own service personnel. In keeping with the expectations of the mine operators, Liebherr Chile also offers long-term service contracts for its cranes.

Three 1250 HC cranes at the Sierra Gorda mine

A total of three 1250 HC tower cranes are in action at the “Minera Sierra Gorda” copper mine. Two of them are the 50-tonne version, whilst the third is the 40-tonne version. All three large cranes have been erected on foundation anchors with similar configurations. The 1250 HC 40 operates with a hook height of 34.9 metres and a radius of 51.9 metres. The two 1250 HC 50 cranes are configured with hook heights of 68.6 and 69.6 metres with a radius of 38.8 metres.

During the construction phase, the large cranes were used as classic tower cranes for effective load handling during the installation of tanks. The various components of these tanks weighed between 14 and 17 tonnes. Since the completion of this work, the cranes have been used as maintenance cranes. One 1250 HC is used for maintenance work on the floatation cells whilst the other two operate on the ball mills.

1000 EC-H at the Centinela Mine

In the Atacama Desert in northern Chile, the service technicians from Liebherr Chile have erected a 1000 EC-H 40 with a hook height of 33 metres and a radius of 56.40 metres. It is to be used as a maintenance crane for the Centinela gold and copper mine for at least 25 years. At an altitude of 3,400 metres, it is exposed to extreme weather conditions such as high and low temperatures, sand storms and extreme aridity. From the very first day on which the crane was operating, a contract was concluded with the customer that Liebherr Chile would carry out all maintenance and servicing work.

No end in sight in Chile

In summer 2018, a 630 EC-H 40 was erected in the North of Chile at the Spence copper mine. This crane provided support during the construction of the plant and will also play a major role in the mine maintenance. The crane will be in action in the Atacama Desert for around 30 years where it will be exposed to extreme weather conditions. In addition, another 1250 HC has been in action since the start of 2019 at the Quebrada Blanca Mine in the North of Chile where it is being used to install the plant components and then service them.

Demand is also increasing in Peru

Large Liebherr cranes have also been in use in Peruvian mines for many years – a 1000 EC-H and two 630 EC-H models. Plans are already underway for the use of a 1250 HC 50 in mid-2019, in a slightly reinforced version so that it can hoist 25 tonnes up to its jib head with a 40-metre jib length. This 1250 EC-H will then probably be the largest crane in the whole of Peru.

This all means that Liebherr has around 20 large cranes in action in South American mines and has already gathered a great deal of experience in these projects – experience which can benefit our customers.

A striking bridge in Kuwait



EC-H builds enormous pylon

A bridge spanning some 48 kilometres has been completed within around four years in the Arab Emirate of Kuwait and now connects Kuwait City with Subiyah. Liebherr Tower Cranes was awarded the order to provide the crane for the construction of the striking Hyundai pylon in the middle of the bay there.

The bridge, which bears the rather complicated name of a sheikh, has the official name “Sheikh Jaber Al-Ahmad Al-Sabah Causeway”. This cable-stayed bridge is now the main transport route between Kuwait City and the Subiyah region to the north of Kuwait Bay. The project cost billions and has reduced the travel time between the two places from around two hours to between 20 and 25 minutes.

The team finds a solution for pylon construction

The objective was clear: We had to build an exquisite pylon in the centre of Kuwait Bay. The initial technical discussions between several Liebherr companies and our customer, Hyundai Engineering and Construction (HDEC), started at the beginning of 2016. After months of talks, elaborations and technical inspections, for example taking into account the foundation and suspension loads, the Liebherr Tower Crane Solutions Department suggested a 550 EC-H 40 Litronic for the job. It was configured with a jib length of 41.5 metres and a lifting capacity at the jib head of 17.7 tonnes. A 500 HC tower system was selected for the challenging erection work on the narrow deck of the cable-stayed bridge in the centre of Kuwait Bay, around 30 metres above the water level. This meant that the high-top crane had to be tied onto just two levels of the pylon’s structural steelwork. These tie-ins were planned and designed precisely to stabilise the crane for the subsequent climbing stages and so as not to adversely affect the aesthetics of the pylon.

Completed according to plan

In addition to selecting the crane, planning the erection and logistics was also part of the process as was the maintenance of the crane using our service package. In fact, we ensured that the crane was delivered direct to Kuwait by our Liebherr company in Saudi Arabia.

The erection work on site started in April 2017. The crane components were transported to the pylon using a pontoon. The team used a floating crawler crane to erect the 550 EC-H. The biggest challenge was the swaying crawler crane in the water, together with gusts of wind and the lack of space on the deck of the bridge. However, the experienced Liebherr service technicians managed to overcome all these problems to ensure that the erection work was completed smoothly to the satisfaction of all concerned.

In total, the tower crane was in action for 18 months and ultimately reached a final hook height of 161 metres above sea level – 129 metres above the deck of the bridge. The individual climbing stages were monitored by our specialists stationed in Dubai to ensure that the job ran smoothly without any incidents.

As a result of our reliable overall package, we at the Tower Cranes Division helped to ensure that this challenging major project was completed early and the Hyundai pylon now decorates Kuwait Bay.

Major modification project on the Molikpaq offshore platform



230 HC-L used as a support crane on an oil platform

Liebherr is carrying out an extraordinary modernisation project on the Molikpaq offshore platform off the Russian island of Sachalin. Two offshore cranes are undergoing full refurbishment, with one of them being fitted with a new control system. Our 230 HC-L 8/16 Litronic luffing jib crane is being used as a support crane for this extensive modernisation project.

Molikpaq was the first-ever Russian offshore oil production platform. Commercial oil production was started on this platform in 1999. The oil from the platform is transported through the Transsachalin pipeline system to the oil export terminal at the Prigorodnoje production complex. After two decades of continuous operation, the three existing Liebherr offshore cranes had to be refurbished.

Inter-divisional, international collaboration

Liebherr undertook this work and will replace two of the offshore cranes in full whilst the third one will be modernised and continue in operation. This is an extraordinarily demanding modification project which requires painstaking planning, logistics, technology and skill. Since the project was started in 2016, over 6000 hours of planning have already been invested in it. The replacement of the first offshore crane with a brand new Liebherr RL 1500 was completed between spring and autumn 2018. 24 Liebherr personnel of various nationalities and from different Liebherr companies were involved in the first phase of the project.

Supporting 230 HC-L for large components with little space

The Tower Crane Solutions Department created a superb support solution to enable large components to be moved on the platform – a 230 HC-L 8/16 Litronic luffing jib crane with a jib length of 30 metres and a maximum lifting capacity of 16 tonnes. As a result of the extremely constricted space available on the platform, the crane was erected on the new 24 HC tower system and so-called anchor shoes. This means that the crane has the smallest possible footprint of just 2.6 x 2.6 metres.

In addition to the 230 HC-L 8/16 Litronic, the Liebherr service department designed and built a special sliding system to move particularly heavy components and modules over the platform. As a result of the extreme weather conditions and the limited space on the platform, the Liebherr personnel from different divisions worked very closely together, demonstrating a very high level of professionalism and concentration.

The second phase, the modernisation of the existing offshore crane, has already been completed. The entire modification project is scheduled to be completed by the end of 2020. Overall, Liebherr was once again able to provide the customer with a fantastic full service package from a single source – including our special solution: a luffing jib crane for offshore use.

Need a bespoke complete solution?

The team at Tower Crane Solutions can offer advice when planning the lowest-cost solution specific to your project. You can enjoy the benefit of over 60 years of Liebherr experience and the entire range of Liebherr tower cranes and components. We will find the perfect solution for you – direct, personal and on time.

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