

Case study:

Alimak Hek does clever work expanding the INHolland University of Applied Sciences



*INHolland University of Applied Sciences,
Rotterdam, The Netherlands*



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Alimak Hek does clever work expanding the INHolland University of Applied Sciences

INHolland University of Applied Sciences in Rotterdam has grown a lot stronger than was expected. This is why the existing building is being expanded with three new complexes: the low-rise building, the bridge building and the tower block. Alimak Hek was asked to supply the mast climbing work platforms for the façade cladding of the building.

Expansion

The existing building of INHolland University of Applied Sciences was completed in 2000, but rapid growth required an extra 18,000 m² in addition. The expansion project consists of three new buildings: The low-rise building, the bridge building and the tower block. These will accommodate the media centre, restaurant, offices and flexible lecture rooms. The design is noted for its tall, modern block with lots of glass, plenty of light and a garden courtyard on the ground floor.

Seamless connection

The new build connects seamlessly to the existing building in terms of design and functionality. Here as well, the façades are clad with glass panels. The low-rise building connects both buildings with each other and in turn offers access to the bridge building and tower block. The heights of the newly built sections are 15, 45 and 66 metres respectively.

Special glass

The façades are being clad with glass panels that are screen-printed with special, eye-catching motifs.

A special technique is used for this. In many instances, the screen print is applied to the inside of the glass in order to avoid it being affected negatively by the weather. The disadvantage of this method is that the colours are less bright and the result less impressive.

In consultation with the glass supplier, TGM Technisch Gevelbouw Management used a special technique which made it possible to apply the screen print to the outside of the glass. The result is brighter images and it creates each screen-printed glass panel being unique.

The images do not repeat. On the other hand, each glass panel has its own fixed place in the façade. This complicates the logistics surrounding the delivery and positioning of the panels. A total of 3000 glass panels are being installed, with dimensions ranging from 470 mm x 272 mm to 5374 mm x 1770 mm.

Positioning the glass panels

Fourteen HEK MSHF mast climbing work platforms have been put in place for the installation of the glass panels. They are all single-mast machines, varying from 8.9 to 10.3 metres in size. This makes it possible to carry out work on the façade more flexibly in several different places at the same time. "Hek mast climbing work platforms are the most efficient solution for us for transporting and positioning the glass panels," says Mr. Harry Tromp, technical director at TGM. "Using Hek mastclimbers also minimizes any damage to the glass panels. This is extremely important to avoid jeopardising construction progress, especially on this building project, where each screen-printed glass is unique.

There is also very little room on the construction site for storing building materials, so we also use the Hek mast climbing work platforms as storage space for the delivered materials. In addition to positioning the glass panels, the Hek mastclimbers are also used for various other activities, such as adding signage to the concrete lift core and welding work on the steel constructions. About 20 people work on the mast climbing work platforms daily."

Complexity of the bridge building

An underground subway line runs right beneath the bridge building. Therefore the area above the subway tunnel has to be kept free of any loads. This is also the reason why one side of the bridge building is built on a 15 metre-high steel support column, while the other side rests on the low-rise building. During construction, the thoroughfare under the bridge building had to be kept open for the delivery of materials. Therefore it was not possible to position the Hek mast climbing work platforms on the ground. The application engineers of Alimak Hek came up with a workaround solution for this.

Steel beams, measuring 20 metres in length, have been attached under the complex across the full width of the building. This offers a solid base for positioning the frame

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Fourteen Hek mast climbing work platforms was used during the expansion project at INHolland University of Applied Science. The mast climbing work platforms was used to clad the façades with 3000 special glass panels, flexibly and efficiently, minimising any damage to the panels.

constructions, to which the ground frame of the mast-climber is attached. The mast climbing work platform is then erected from there. This steel construction is also used for fixing the ceiling to the underside of the building. This type of steel construction has never been used before.

Support from Alimak Hek

Alimak Hek has drafted the technical drawing for the scaffolding plan, which shows the positions of the mast climbing work platforms, allowing the work to proceed as efficiently as possible.

They also came up with a solution for cladding the façade of the bridge building by means of attaching the steel construction.

Alimak Hek also provides the erection and dismantling of the machines as well as maintenance. And carries out regular safety inspections to ensure safety on the construction site.

The company of TGM owns four of its own mast climbing work platforms, which are maintained, erected and disassembled by Alimak Hek. Projects that need more mastclimbers are supplied with them from Alimak Hek's rental fleet.

The project was started in November 2005 and is due to be completed in August 2008.



DETAILS

Location:	INHolland University of Applied Sciences, Rotterdam, The Netherlands
Rental period:	Nov 2007 – Aug 2008
Platform type:	HEK MS HF, single mast
No. of Mastclimbers:	14
Capacity:	Varies between 1300 kg and 1600 kg
Platform size:	Varies between 8.9 m and 10.3 m
Speed:	7 m/min
Lifting height:	Varies between 15 m and 50 m

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