

CASE STUDY

Alimak elevator provides access inside the bridge pylon

Accessing bridge pylons for service and maintenance presents one of the trickiest challenges for elevator and access companies. Alimak rack and pinion elevators adapt to inclinations and curves, tight spaces and windy conditions and climb to the very top of the highest structures.

In 2002, a specially-built Alimak SE 500 passenger elevator was commissioned to provide access to one of the best panoramic views of Thailand's capital. The elevator is installed inside the inverted-Y concrete pylon of the prestigious Rama VIII cabled-stay bridge, which crosses the Chao Phraya River in Bangkok. Measuring 0.9 m x 1.3 m, it travels up one of the pylon's legs at a rate of 1 m/sec. At around 75 m, the elevator slows to 0.2 m/sec to adjust for the vertical climb, and then resumes full speed for the remainder of the journey to the observation platform at the top of the 161 m-high pylon. The Elevator's U-600 guide rail is curved with an inclination of 13° in the lower section and vertical on the upper section. Alimak achieved this by dividing the main frame into five pieces.

The Rama VIII Bridge is named after Thailand's former King Rama VIII, and was officially opened in September 2002, the same year that Bangkok celebrated its 220 anniversary. It features a 300 m main span, and has two lanes in each direction for traffic, plus a bicycle and walkway lane.



OTHER BRIDGE PROJECTS

Other examples of bridge projects around the world where Alimak industrial elevators or construction hoists have been installed include:

- Viaduc de Millau, France
- Chung Sin, Taiwan
- Pont de Normandie, France
- Sunshine Skyway Bridge, USA
- Second Severn Crossing Bridge, UK
- Honshu Shikoku Bridges, Japan
- Tsing Ma/Ting Kau/Kap Shui Mun Bridges, Hong Kong
- Great Belt Bridge, Denmark
- Øresund Bridge, Sweden-Denmark
- Megyeri Bridge, Budapest, Hungary

ELEVATOR DETAILS

Location:	Rama VIII Bridge, Bangkok, Thailand
Applications:	Bridge pylon
Elevator type:	Rack and pinion
Elevator model:	ALIMAK SE 500 SP
Capacity:	500 kg
Elevator car size:	0.91 m x 1.3 m (W x L)
Lifting height:	151.4 m
No. of landings:	2