

CASE STUDY

Six Alimak elevators provides emergency escape in the high speed rail tunnels

Six Alimak industrial elevators provide emergency escape in the tunnels of Linkou, Hukou and Taoyuan which is part of the Taiwan high speed rail project.

The Taiwan High Speed Rail (THSR) is a high-speed rail network that runs along the west coast of Taiwan. It is 335.5 kilometers long, and runs between Taipei, the capital city in the north, and Kaohsiung, the second largest city in the south. THSR began operation in the beginning of 2007. An express train capable of running at up to 300 km/h travels from Taipei City to Kaohsiung City, a distance of 345 km, in about 90 minutes.

Alimak was asked to provide a solution for emergency escape in the tunnels and suggested their rack and pinion elevator with some special features added to it to suit the application. All elevator cables are flame retardant to eliminate the risk of gases created by burning cables in case of a fire.

Two Alimak elevators are installed at the second longest tunnel among tunnels of THSR project, the 6.4 km long Linkou tunnel. The elevators has 3,000 kg payload capacity and lifting heights of 36.5 m. One Alimak elevator with 2,400 kg payload capacity and a lifting height of 8.63 m is installed inside the 4.3 m long Hukou Tunnel located about 70 km from Taipei. Three Alimak elevators with 2,400 kg payload capacity and lifting heights varying between 6.66 m and 15.93 m are installed at the three Taoyuan tunnels totalling 2.4 km. All six Alimak elevators are providing emergency escape in the tunnels. In case of fire, people can be transported with the elevators to the tunnels emergency exits at ground level. Tanamark Industries Ltd purchased the Alimak elevators for the THSR project from Alimak's distributor in Taiwan.

ALIMAK IN THE TUNNELLING INDUSTRY

The first Alimak tunnel elevator was installed in Austria in 1975 to inspect the 600-meter deep ventilation shafts in the tunnel under the Tauern pass. Since then, Alimak elevators have been installed in a number of road and railway tunnels all over the world. They are used for transportation of personnel and materials, for inspection, maintenance, and emergency escape.



ELEVATOR DETAILS

Project:	Taiwan high speed rail
Location:	Taipei-Kaohsiung, Taiwan
Application:	Tunnel escape shafts
Product category:	Industrial Elevators
Elevator model:	Alimak SE
No. of elevators	6
Capacity:	2,400 kg and 3,000 kg
Speed:	0.6 m/s and 1.0 m/s
Lifting height:	Varies between 6.5 m to 36.5 m

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