
PRESSE-INFORMATION PRESS RELEASE

VÖGELE pavers build 110km motorway section in China.

“Workhorses” Master Mammoth Project

In China, road construction projects are currently being realized at a pace that other countries can only dream of. One such project is underway in Hunan province, where contractor Guangdong Liantai Group Co., Ltd. is building the 110km long Shao Yong Expressway in just three years. The first task involved placing and compacting base course comprising a volume of 800,000 tonnes of CTB (cement-treated base). This job proved to be a tough challenge for two VÖGELE SUPER 2100-2 pavers and numerous HAMM Series 3000 rollers.

The Shao Yong Expressway will be an important link in China's long-distance transportation network and is of immense strategic importance to the Central Kingdom. The 110km stretch between the mega cities of Shaoyang and Yongzhou is part of the 1,738km long north-south axis from the city of Taiyuan to the gambling paradise of Macau. The new connection, running in parallel, is intended to relieve the expressway between Beijing and Zuhai, which winds more than 2,290km through China. The expressway is known as a traffic congested route.

800,000 tonnes of CTB needed

The project kicked off in May 2006 with the placing of cement-treated base. In order to establish a foundation of high load-bearing capacity for the roadway, the CTB base was amply dimensioned and made up of three layers: the first one 20cm thick and the two following layers 19cm each. For the road base alone, 800,000 tonnes of CTB were

required, prepared in eight mixing plants. Supply of the pavers with mix had been minutely planned by contractor Guangdong Liantai Group: the capacity of each mixing plant was 500t per hour and up to 10 haul vehicles per plant transported the mix to the job site to feed the pavers.

Two SUPER 2100-2 demonstrate superior performance

The Shao Yong Expressway is being built with four lanes in each direction, which sums up to a total width of 52m. For the paving operations, contractor Guangdong Liantai Group Co., Ltd. opted for pavers from VÖGELE. The two SUPER 2100-2 were combined with SB 250 Fixed-Width Screeds in TP1 version. The pave width was 13m and covered two lanes. Placing the CTB went smoothly, not least thanks to the well-thought-out and proven machine concept of the “dash 2” generation VÖGELE pavers. With its powerful engine delivering 182kW, the SUPER 2100-2 is a true workhorse. And the material hopper, conveyors and augers, too, are designed for high laydown rates. A SUPER 2100-2 is capable of placing up to 1,100 tonnes of mix per hour. This performance makes the machine the perfect choice for large job sites such as the Shao Yong Expressway, a task handled by the powerful paver economically and with ease.

High Compaction Screeds get the job done

On the Shao Yong Expressway site, the two SUPER pavers impressively demonstrated that the choice of VÖGELE equipment was precisely the right decision. When placing cement-treated base, the VÖGELE High Compaction Screeds achieved perfect results in terms of pre-compaction and accuracy of levels. Cement-treated bases consist of unbroken and/or broken aggregate bonded with cement, a hydraulic binder. SUPER pavers are capable of placing these materials in a perfect manner, as they demonstrated on the Shao Yong Expressway. The SB 250 Fixed-Width Screed in TP1 version, equipped with one pressure bar driven by pulsed-flow hydraulics, achieved a first-class degree of pre-compaction.

10 HAMM rollers produced the final density

As for the earthworks, HAMM Series 3000 rollers were also used for final compaction of the cement-treated base. As many as 10 units of the orange coloured HAMM machines were on the scene. The Series 3000 rollers combine modern technology with outstanding design and lots of comfort.

Contractor much impressed by WIRTGEN products and service

Guangdong Liantai Group Co., Ltd. are highly satisfied with the performances of all equipment involved and also with the service provided by WIRTGEN China. When this large-scale project came up, those responsible in the company had decided in favour of products from VÖGELE and HAMM. The use of machinery from the WIRTGEN Group has a long tradition with the construction company. Guangdong Liantai Group already completed a great number of projects with VÖGELE pavers to their entire satisfaction. Now the asphalt layers are still due for paving. For this job, too, the two VÖGELE SUPER 2100-2 will play the key role. On the cement-treated base, they are going to lay 10cm asphalt base, 6cm binder course and 5cm wearing course. After an incredibly short construction time of just 3 years, the Shao Yong Expressway will be opened to traffic in 2009. The new 110km stretch will pass over 90 bridges and through 17 tunnels.

A strong foundation: Cement-treated base (CTB)

The function of a base course is to provide a uniform foundation of high stability for the layers placed on top, such as asphalt binder course and asphalt wearing course. In combination with these layers, the base absorbs the forces from traffic and provides for uniform distribution of these forces onto the sub-base. The purpose of the base course also is to ensure quick and effective protection of the sub-base against water to maintain its load-bearing capacity.

Base courses are often built as cement-treated bases (CTB). These bases are well proven in road construction. The mixes prepared in

mixing plants are transported to the job sites by lorries.

In the event of long distances for transport to the job site or adverse weather conditions, the CTB should be covered with tarpaulins. It is recommended to use pavers with high compaction screeds for placing the mix. The advantage: these screeds achieve a high degree of pre-compaction. In order to obtain a perfect bond between several layers, these layers should be placed "fresh on fresh". For final compaction of cement-treated bases, rubber-tyred rollers and/or single-drum compactors are generally used.

**** End of Press Release ****

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The SUPER 2100-2 stands out through high reliability even when paving in a large width of 13m.



Voegele_03_1_09_Hunan_Fig.2.jpg

The SUPER 2100-2 with High Compaction Screed achieved an excellent degree of density when placing thick base course.