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STAHL CraneSystems GmbH  
Daimlerstraße 6  
74653 Künzelsau

Your contact for questions on the content:

Heike Metzger  
Tel. +49 7940 128-2388  
Fax +49 7940 128-2300  
heike.metzger@stahlcranes.com  
www.stahlcranes.com

Author:

Dipl.-Ing. Jan Türk  
VISUELL Studio für Kommunikation  
Tel. +49 711 64868-0  
jan.tuerk@visuell.de

## **STAHL CraneSystems meets all requirements Special rope drum for LNG wire rope hoist**

**There are no simple catalogue solutions for hoists on LNG systems. Since the requirements vary depending on the pump manufacturer, plant manufacturer, EPC contractor and country of destination, customers benefit from reliable and customisable serial products. STAHL CraneSystems has, for example, designed a hoist with special rope drum for maintenance cranes on Chinese LNG tanks that fulfills the requirements of the Chinese market. The explosion-proof LNG wire rope hoist is based on the tried-and-tested SH ex series, while the rope drum is a mixture of drums from the SH and AS series.**

### **No LNG tank without crane technology**

Shenzen LNG is already the third Chinese LNG terminal after Ningbo and Tianjin for which STAHL CraneSystems has supplied the explosion-proof crane technology to the plant manufacturer TGE Gas Engineering. The successful collaboration between the two German firms has already proven its worth in numerous other LNG and gas plants in Europe and Asia. The new LNG terminal in Shenzhen consists of four 160,000 m<sup>3</sup> liquefied gas tanks and was commissioned towards the end of 2015.

Every LNG tank is equipped with a crane to place the liquefied gas pump on the bottom of the tank and to lift it out into the open air again for maintenance or repair work. Due to the potential explosion risk from evaporating gas, all electrical components must be constructed in explosion-proof design, which also applies to the crane technology used. In addition to this, further and stricter requirements than those in ATEX or IECex standards must be met in LNG applications depending on the operator and country of use.

**Almost standard, but still exceptional**

The specifications for LNG wire rope hoists in Chinese plants require a ratio between rope diameter and rope drum diameter (D/d ratio) that cannot be achieved with a standard hoist. STAHL CraneSystems has therefore developed rope drums with a larger diameter specifically for these wire rope hoists and deployed them successfully in the past years on the gas tanks at the Ningbo LNG and Tianjin LNG terminals.

The rope, which is firmly connected to the LNG pump, measures 13 mm in diameter. The standard diameter of the drum of the SH 6 wire rope hoist is 356 mm. A drum from the larger wire rope hoist series AS 7 with a diameter of 456 mm is welded on to this drum in STAHL CraneSystems's factory to increase the already very good D/d ratio from 27 to 35 without complex modification of the design of the series hoist. At the same time, it is possible to fulfill the customer's requirement for an additional rope drum brake based on the proven module system of the SH series without problem by using the standard drum and standard frame – resulting in an economical solution in spite of all the modifications.

**Long-term reliability**

The advantages of near-standard special solutions such as these LNG wire rope hoists are obvious: The individual components stem from our own serial production, their technical design is well-conceived and fully developed and a supply of spare parts is ensured for decades to come. The period of use is difficult to estimate, especially in the case of energy plants and offshore solutions – it is not seldom that the calculated period of use is exceeded and systems are used significantly longer than planned. The durability, reliability and safety of the crane system can only be guaranteed over the long term if all important components are easily accessible for maintenance work and spare parts quickly available.

**A strong team**

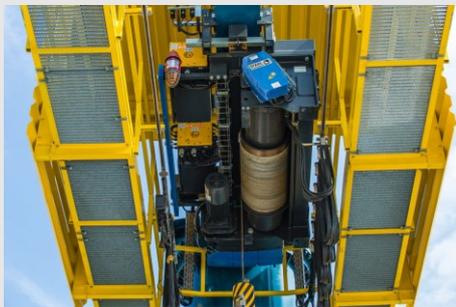
TGE Gas Engineering GmbH was responsible for the planning, design and construction of the LNG tanks. The Bonn-based company has erected numerous liquefied gas plants around the world in the last 30 years and has used explosion-proof hoists and crane technology from STAHL CraneSystems in many of these projects. STAHL CraneSystems is known internationally as an expert for customised hoist solutions and as one of the world's leading manufacturers of explosion-proof crane technology, particularly for the oil and gas industry.

**Presseartikel | Press Article**

**Photos** (lead and detailed photos):



The four LNG tanks in the Chinese city of Shenzhen were commissioned towards the end of 2015. The salty air near the coast places special demands on the workmanship of the crane technology.



These explosion-proof LNG wire rope hoists from STAHL CraneSystems work with a special rope drum in order to fulfill special requirements.



Explosion-proof switch boxes are designed by the crane technology experts in Künzelsau and manufactured for crane systems worldwide.



Even if it does not look like it on this photo: LNG hoists are often exposed to wind and weather for years before they are used again. The enclosure protects the wire rope hoists.

## Presseartikel | Press Article



Explosion-proof jib crane systems, equipped with crane technology from STAHL CraneSystems, have already proven their worth at other LNG terminals in China and around the world.