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STAHL CraneSystems GmbH
Daimlerstraße 6
74653 Künzelsau

Your contact for questions on the content:

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

Author:

Dipl.-Ing. Jan Petersen
VISUELL Studio für Kommunikation
Fon +49 711 64868-0
jan.petersen@visuell.de

International success

STAHL CraneSystems supplies six off-standard cranes for LNG terminal in Rotterdam

Explosion protection: life insurance for workers, survival for investors. Bureaucracy and national legislation for those planning international projects. Anyone who is employed in systems manufacture on an international level places great emphasis on reliable, experienced suppliers. STAHL CraneSystems' experience has made it the world's most successful supplier of explosion-protected crane technology and a sought-after partner for international project engineers, such as ENTREPOSE for example. This French company was recently responsible for planning, procuring and erecting "GATE", the new liquid natural gas terminal in the Port of Rotterdam. STAHL CraneSystems supplied six explosion-protected maintenance cranes for this project.

GATE stands for "Gas Access To Europe," it is the Netherlands' first liquid natural gas terminal. The plant was opened in September 2011 after a construction time of three years, and in the long run is intended to assure gas supplies to north-western Europe. LNG is the abbreviation for liquefied natural gas. It is transported at a temperature of -160°C to Rotterdam by tankers and there stored in special LNG tanks. It is then slowly heated up using warm water, reassuming its gaseous state and expanding to 600 times its volume. It is subsequently fed into the gas pipeline network and is transported overland to power stations and households in the Netherlands and the whole of north-western Europe.

The GATE terminal in Rotterdam comprises three LNG tanks with a total volume of 540,000 m³ LNG. That is approximately equivalent to the amount of natural gas which is consumed in the Netherlands in 10 days. The liquid gas is transported with the aid of pumps set on the base of the tanks. For maintenance work, or if a pump is faulty, they have to be lifted out of the tank by crane – a very tricky operation in view of the extremely low temperature and the danger of evaporating gas exploding.

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The peculiarity of maintenance cranes is that they are practically never used. And if they are used, then usually in critical situations when production has come to a standstill, time is money, and the health and safety officers are reaching for tranquillisers. When maintenance is performed on LNG tanks technology is required which is 100 percent reliable. LNG is neither inflammable nor poisonous in its liquid form and thus relatively innocuous. However if it evaporates, it is highly explosive. For this reason the most stringent explosion protection regulations apply in the whole GATE terminal – including the crane technology. The LNG wire rope hoists from STAHL CraneSystems used here meet these requirements. Off-standard LNG hoists are used for lifting the valuable liquid gas pumps. Each of the three explosion-protected hoists has two separately driven rope drums with 2400 kg lifting capacity each. The dual design ensures safe operation even if, unusually, a rope should break. An additional slewing crane, equipped with explosion-protected wire rope hoist type SH 30 ex, is mounted on each liquid gas tank. These auxiliary cranes with 150 kg lifting capacity are used to transport tools and small components up to the platform of the tank.

As market leader for explosion-protected crane technology, STAHL CraneSystems offers the world's widest range of hoists and crane components. The products are certified in compliance with ATEX or the IECEx scheme. Complete documentation is a matter of course. STAHL CraneSystems offers for the LNG field specially protected LNG hoists which are by now in use in many plants all around the world. The market for LNG is booming: the liquid gas deliveries to Europe has been rising continuously over recent years – in 2010 approximately 16 percent of European gas consumption arrived by sea.

Keystrokes:

Photo material:



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A maintenance crane is positioned on each tank to lift the liquefied gas pump out of the tank and set it down outside, adjoining the tank.



STAHL CraneSystems' off-standard LNG hoists are certified in compliance with ATEX and thus approved for use in hazardous areas.

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The redundant design ensures safe operation even if one of the hoists should fail.



The casing protects the hoist from wind and weather.



Decades of experience in explosion protection and crane building make STAHL CraneSystems a sought-after partner for major international projects.

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These auxiliary cranes with wire rope hoists type SH 30 ex are approved for explosion protection zone 2. A hoist brake with manual release permits the load to be lowered safely even in a power cut.