

Pressemitteilung | Press Release

7 February 2014

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Crossover

Two wire rope hoists, three cranes, one ideal solution

Riexinger Novoferm in Brackenheim manufactures fire doors. Production is highly automated and all production stages are state of the art. Riexinger's planners were confronted with a tricky problem recently when one of the machining centres was to be modernised: the new high rack for storing the unmachined doors reached nearly up to the struts of the ceiling, making it impossible to mount an overhead crane above it. However this crane is needed to transport the heavy laminated sheets from the front of the building past the high rack to the interim storage area in the rear.

The planners then contacted Innokran to implement their project of accessing the whole wing of the building by crane by circumnavigating the machine. The South German manufacturer of customised cranes found an cost-effective and technically fascinating solution to bypass the high rack.

The crane system, which has meanwhile stood the test of day-to-day work, comprises three crane bridges: a 12.20 m wide standard crane spans the machining centre and the front section of the building; a two-part off-standard crane covers the rear. The shorter crane bridge of this off-standard crane has a track gauge of 3.60 metres and covers the passage next to the rack, while the second 7.80 wide suspension crane spans the storage area behind the machine on a parallel crane runway. The wire rope hoist can cross over to the other bridge where the crane runways overlap. An ingenious interlocking device from STAHL CraneSystems makes this possible.

When the crane operator gives the interlock command by remote control and the active bridge moves into the defined crossover position, the control decelerates the crane bridge over the last 10 centimetres and stops it at the precise position of the second crane bridge. Theoretically this could take place at any point along the crane bridge, however at Riexinger Novoferm the interlock position is precisely defined for structural reasons.

Several sensors register the approach and the correct position of the crane bridges. When the two bridges are level, they are automatically interlocked and a mechanism releases the electrically driven STAHL CraneSystems wire rope hoist. It is of course also possible for the hoist to transfer to the other bridge under load. Both the crane control and the wired remote control are mounted directly on the hoist. An integrated logic detects on which of the two crane bridges the trolley is at that precise moment and which of the travel motors must therefore be activated to move the crane. Additional conductor lines transmit the travel and logic signals between wire rope hoist and crane bridges. Data transfer between the crane bridges is contact-free employing a total of 5 light barriers.

Loads to be transported from the front section to the rear of the building can be transferred at the six metres wide overlap of the two crane runways.

Mature crane technology intelligently employed

Apart from the SH wire rope hoist from STAHL CraneSystems, another hoist is concealed in this customised solution: an ST 05 chain hoist for driving the interlock mechanism is mounted above the short crane. It also opens the safety latches for the trolley to cross over, these serve as buffer stops when the crane bridges operate independently. Hoists, crane control, suspension crane endcarriages and travel motors were supplied by STAHL CraneSystems, the specialist for customised crane technology solutions, whose plant is only 70 km away.

Innokran GmbH has been producing crane systems as a certified partner of STAHL CraneSystems since 2010. The company's focus is on complex customised solutions which are exported from Pleidelsheim all over the world.

STAHL CraneSystems supports crane builders on demanding projects such as these suspension cranes with its wide range of products and sophisticated design solutions. Particularly qualified crane builders such as Innokran tech are certified by STAHL CraneSystems as official crane building partners and receive especially intensive support. The modular construction of STAHL CraneSystems' hoists and crane components enables crane systems to be adapted specifically to requirements, so that high-quality, technically mature crane technology is always utilised even for demanding projects.

Keystrokes: 3700

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The customised crane in the rear section of the building can be divided. The crane bridge on the right of the photo can then move past the high rack into the front section of the building.



Easy to operate: when the crane operator gives the interlock signal, the control decelerates automatically on approach and interlocks the crane bridges automatically.

The two crane bridges shortly before the interlock position.



On the left: five light barriers for contact-free signal transmission between the crane bridges, top centre the chain hoist for the interlock mechanism, on the right the conductor lines for travel and logic signals.



The shorter section of the off-standard crane can travel past the high rack into the front section of the building.

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The machining centre in the front section of the building is spanned by a 12.20 metre wide standard crane.



Five light barriers for contact-free signal transmission between the crane bridges