

# world of rope

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**Page 2**

CLEAR TRACK AHEAD THANKS TO KIROW RAILWAY  
CRANES AND CASAR EUROLIFT

**Page 3**

CASAR'S PRESENTATION AT THE  
UNIVERSITY OF PERM MINING CONFERENCE

**Page 4**

WELCOME TO THE TOC ROTTERDAM

Dear readers of our newsletter,

From a ship hoist in the Indian state of Goa to a mining conference in the Siberian city of Perm, and back to the railway cranes of Kirow in Leipzig, this newsletter will take you on a little journey around the world. You will see the international reach of our rope business, which for me is proof of the importance of free and fair trade between countries and continents.

We are spurred on by the international competition of other market players to

continue to work intensively to improve our first-class products and excellent service. We will not cease in our endeavours.

Please demand the highest performance of us. We are happy to be of service!

Yours sincerely

*Andreas Schmeiss*  
SVP Global Cranes



**Andreas Schmeiss**  
WireCo WorldGroup  
VP Global Cranes

## Re-cabling of Ship Hoist in Goa, India

At the time of this newsletter's publication, the GOA Shipyard Limited is receiving 30 new ropes for its ship hoist, the heart of the GOA Shipyard. The shipyard lies on the west coast of India, in Vasco da Gama, a city in the Indian state of Goa.

The GOA Shipyard was founded in 1957 by the Portuguese colonial administration and was originally intended to build cranes for the local mining industry. After Goa was annexed by India in 1961, the shipyard was taken over by the Indian government and, from then on, was set to work building battleships for the Indian Navy and the Indian Coast Guard.

As the shipyard began to age and became in need of numerous repairs, CASAR was first commissioned in 2009 to supply 30



ropes for a new ship hoist. At that time, the Dutch company M/S Bosch Rexroth BV installed the new ship hoist and transfer system. This system makes it possible to lift ships up to 120 m long and weighing up to 6,000 t out of the water and transport them to the dry dock.

Following an in-depth study of the plan and detailed consideration of the operation and reeving of the ropes by CASAR rope specialists, the choice made in 2009 was CASAR Paraplast, a double parallel rope construction with a plastic core. To suit the warm, humid sea climate of Goa, the rope was made of special, very corrosion-resistant wires and additionally coated with a special lubricant which would provide the rope with effective protection. This is particularly important because parts of the rope are permanently submerged in

salt water, or at least remain within the splash zone of the salt water. Another reason for the special corrosion-resistant wire and special rope lubrication was the required life-span of 7 years. This was confirmed by the director of our Technical Service, Mr Günter Knerr, following an extensive life-span calculation, based among other things on the load spectrum. Since the shipyard began its operation in May of 2011, these 7 years will be over in May of 2018 and the ropes are now being supplied for the planned replacement. True to the adage, "never change a winning

team", the customer found no reason to change the rope specifications, meaning that 30 Paraplast ropes will again be used.

The ropes are delivered with a solid thimble secured by an aluminium ferrule. The ropes function in pairs and are each reeved 8 times. The reeving results in a particularly large fleet angle, though this poses no problem for the Paraplast. The ship hoist covers a height differential of 10.7 m from the lowest position to the transfer level. There are 12.75 m to the final position, the so-called Service Level, meaning that

there are an additional 2.05 m, though at a reduced load. The tare weight of the platform is 1,700 t, enabling it to move a laden weight of up to 7,700 t.

## Clear track ahead thanks to Kirow Railway Cranes and CASAR Eurolift



Even today, 200 years after the invention of the first usable locomotive, the railway continues to play a decisive role when it comes to transporting people and goods from A to B. Maintenance and the development of the track network

are fundamentally important to smooth operation as delays are not only annoying, they cost money too. For this reason, 80 years ago, the company Kirow in Leipzig began developing railway cranes. These "multi-task" cranes truly can be used for

a multitude of tasks. After accidents, they can retrieve locomotives and cars, remove rubble and replace damaged switches and tracks. They can also quickly and reliably be employed for cutting back overhanging trees, re-railing train cars or moving track.

The alert reader will no doubt be asking at this point why many of these tasks could not simply be handled using a conventional street crane. The answer lies in the usual adverse operating conditions: often the area is unpaved, there are no access roads, or the stretch of track is cut off by a tunnel or obstruction such as pylons, pillars, overhead wires or signal equipment. What we need, therefore, is a crane which is perfectly suited to a rail environment and brings the following characteristics to the table: ready to use quickly, high performance capacity and exceptional manoeuvrability. All these factors are united in the Kirow Multi-Tasker Railway Crane. In a train, this crane can reach speeds of up to 100 km/h and due to the very short set-up time, the crane is ready for use within 15 minutes. The crane carries its own counterweight directly with it or on a nearby car.

Due to its own considerable weight and a load torque which is 7 times higher than standard street cranes, it is possible to manage loads safely, even at significant outreach. At the same time, the crane's centre of gravity always remains over the tracks. The geometric design of the counterweight of the small crane types and the double slewing ring on the large



cranes enable profile-free working.

As a hoist rope, the Kirow Railway Cranes use rotation resistant CASAR Eurolift ropes. Because of the opposing double drums configuration, the Lang lay right and left ropes are used. DIN 3091 solid thimbles serve as end connections. Depending on the type of crane, the cranes spool between 1 and 4 layers. In all, there are currently 7 different performance classes of Multi-Taskers, capable of varying load capacities. The number in the name indicates the maximum load

torque of the crane, meaning that while the KRC 100 reaches a load torque of 100 Tm, the KRC 1,600 achieves 1,600 Tm. Incidentally, the abbreviation KRC stands for "Kirow Railway Crane". The most common rope diameter on the Multi-Taskers is 24 mm while the length varies by crane type. Now around 30 cranes from the Kirow company are bound for the international market, and for which CASAR was able to supply the hoist rope. Here too, "Made in Germany" cranes and ropes are providing for a clear track ahead.

## CASAR's presentation at the University of Perm Mining Conference

Every year in autumn, the state-run University of Perm in Russia hosts a technical conference for mining experts. Both professors and scientists from the university and representatives from the industry contribute to the event. In 2017, CASAR provided an interesting presentation on transport cables used in underground mining.

As a qualified expert in mining cables, Dr. Oliver Fries (VP European Engineering) presented the success story of the CASAR transport cables. The head of the Casar sales office in Moscow, Svetlana Skvir-

skaya, provided energetic support in both organisation and translation. This special cable for mining, now in use around the world, has made its way to Eastern Europe and particularly to Russia, and its performance in terms of life-span and reliability have convinced numerous customers of its merits.

For example, the experimental results from a mine belonging to OJSC URALKALI was presented in detail. One of the most important services offered by CASAR engineers is to adapt or optimise existing or future rope constructions to the given



site conditions based on the equipment type, geometry and load. In doing so, the main aim is always to ensure the longest possible life-span, because every day lost without material transported significantly compromises the economic viability of the mine. To secure the planned rope life-span, CASAR engineers calculate the respective flex cycles in advance, which can then be guaranteed to the mine.

For the shaft in question, the mining rope Turboplast M with a diameter of 63 mm and a length of 728 m was selected. The tried and tested rope construction of galvanised wires in Langs' Lay, and the proven plastic-coated steel core achieves a minimum breaking strength of 350 t.



The single-layer double drum with a diameter of 5 m lifts a load to a height of 480 m in around 11m/s. After 244,000 cycles, the rope was removed, and the areas exposed to the greatest stress during operation in the mine were examined in the lab. Neither the loss of profile nor the wear and corrosion on the inner side of the rope were significant as yet. The breaking strength measured was, despite the high number of load cycles, still above the minimum breaking strength guaranteed at delivery.

The presentation and the information gleaned was well-received by the experts present. An invitation to the conference in 2018 has already been announced.

## Welcome to the TOC Rotterdam

After staying away for many years, CASAR is back at the TOC, the special trade fair for global container transportation and corresponding harbour systems. From 12 to 14 June 2018, container specialists will gather at the Ahoy exhibition grounds and we would be delighted to welcome you to our stand, A54.

# TOC

EUROPE



NEXT ISSUE WILL BE PUBLISHED IN

## JULY 2018

PLANNED TOPICS:

- FIRST MINING ROPE FOR CHINA
- CASAR IN AUSTRALIA
- TOC EUROPE: REPORT

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