Bromma Report

Winter 2014

Report from the Absolute Top Division:

TCP Delivers Excellence in Brazil

Eight Years as Head of Bromma:

An Interview with Per-Anders Holmström

Quality:

Certifiably Bromma

Sparepart & Service:

Know what Components can *Make* or *Break* Your Operation

Commercial News:

Strengthened Position in Yard Spreaders

Excellence in Brazil

Terminal de Contêineres de Paranaguá, TCP, is today one of the most productive container terminals in Brazil. Constantly performing an average of more than 80 vessel moves per hour the terminal is offering an excellent service to the vessels calling the port. Bromma Report met with TCP to find out why they are successful.

Brazil is the largest country in the Latin American region and the world's fifth largest country, both by geographical area and by population. The country has a 7,491 km long coast line stretching from just north of the equator to the southernmost part of the shore which is on the same latitude as the southern tip of Africa and South Australia. It would take 22 days for a cruise ship doing 15 knots for 12 hours/day to travel the coast of Brazil. I think the point is made – Brazil is a huge country with a long coast line. A big country and a long coast line is a good indication of a country with many seaports. One of the most efficient container terminals is found in the southern part of the country.

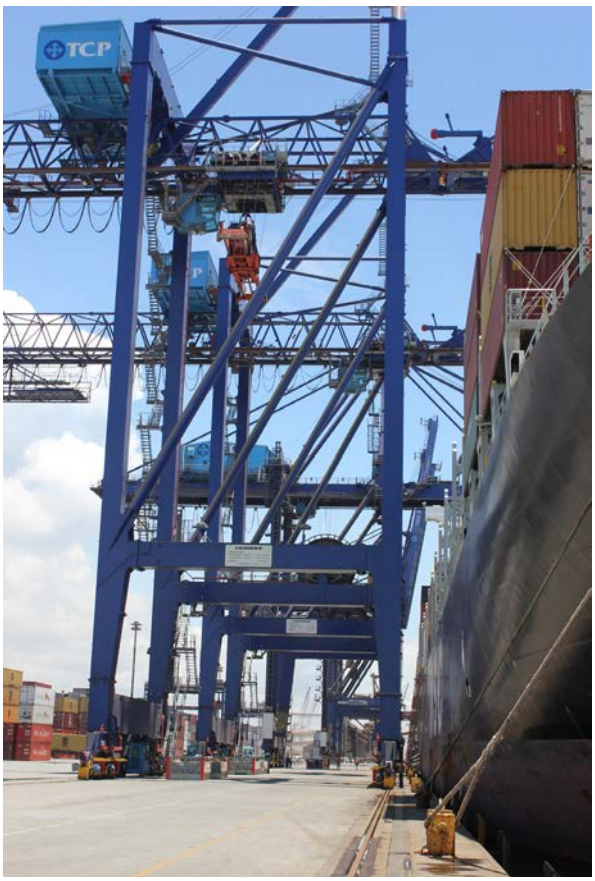
Founded in 1648, Paranaguá is the oldest city in the state of Paraná. Paranaguá is also the seaport for Curitiba, the capital of the state. When looking at a map it is easy to understand the reason for establishing a city on the spot where Paranaguá is located. Well protected by the Paranaguá Bay but still easily accessible from the sea it is a perfect location for a city, especially at a time when the sea was the only alternative for efficient transportation and travelling.

The port of Paranagua is long known for its excellent port facilities but the dedicated container terminal is actually relatively young. Terminal de Contêineres de Paranaguá (TCP) was founded in 1998 and has since then grown its business steadily. When the terminal was opened for traffic 13 years ago, the single birth was

operated using two quay cranes. Six years later the second birth was taken into operation extending the length of the pier to 560 m. Another two quay cranes were added in this extension phase. Today a total of six quay cranes are serving the two births which together with two supporting mobile harbor cranes give a capacity of 1,2 MTEU. The 320,000 m^2 container depot is serviced by 20 RTG's.

The next extension step for TCP is already initiated. The pier will be extended to 900 m. Another four quay cranes and 10 RTG's are on order for delivery during the first half of 2014. The extension will increase the capacity to 1,5 MTEU.

The vessels calling at TCP today are vessels up to 350 meters long with a capacity of 8000-8500 TEU's. The new cranes being delivered this year will increase the terminals ability to handle larger vessels as well as increasing the general capacity of the terminal. **The new cranes – which will be the biggest cranes in Brazil - will have a lifting height of 46,5 meters and capable of handling 23 row wide vessels.**



Unique Facilities Attract Customers

TCP is one of a very few container terminals in Brazil that can offer on-dock rail facilities with daily connectivity to and from inland points. The extensive railway network which connects the port with the principal Brazilian production centers and important logistic hubs in the region is an important factor when attracting customers to the terminals services.
The customer base for TCP is found primarily in the states Paraná and Mato Grosso. The agricultural sector plays a significant role in the economy of these states, in particular in Mato Grosso. Large volumes of meat – primarily meat of chicken and pig – are exported in reefer containers with destination Asia and Europe. Wood

Maintenance manager at TCP, Mr Luiz Augusto Meneguello

is also a significant export commodity being shipped to primarily Europe.

Another thing which is produced and exported in big quantities in this region is soybeans. Soybeans is traditionally shipped in bulk but TCP has recently seen a significant growth in soybean export being shipped in containers. The industrial sector is the major contributor to the Parana state GDP and is directly reflected in the business of TCP. Many international companies have assembly and manufacturing plants in Brazil in order to avoid the very high import duties. Curitiba, Paraná is one of these manufacturing centres for international companies.

Two major truck and car manufacturers - Volvo and Renault – have assembly plants in Curitiba and the component supply through TCP in Paranguá. Another international business giant – Electrolux – has also based their Brazilian assembly plant in Curitiba. The business relationship between TCP and Electrolux actually stretches further than just the import of goods as the terminal during certain periods also support Electrolux with an extended part of the supply chain through warehousing of components as well.

It is interesting for Bromma - being a Swedish company and an important supplier to TCP – to find that two of TCPs important customers – Volvo and Electrolux – are also Swedish. Sweden is a small country but with a relatively large industrial footprint in the world and many leading brands.

Tough Competition Drive Performance

Competition is good for business! Competition forces the actors to stay on their toes! The competitive situation for TCP is certainly not a "walk in the park". Itapoa is just 60 km south of Paranagua and Santos about 260 km to the north. The combined capacity of the terminals in Santos, the seaport for São Paulo, is significantly higher than the capacity of TCP but the capacity is needed for the traffic coming from São Paulo. The terminal in Itapoa, which was opened in 2011 .is a nearby alternative for the client looking for an alternative to TCP, but TCP has managed to keep and extend their customer base despite the competition. As will be mentioned below, TCP´s high productivity together with a reliable performance are indicators that tend to keep the customers happy and loyal.

The Road to Success

One of the reasons behind the success of TCP becomes evident through a discussion with the maintenance manager Mr Luiz Augusto Meneguello. When we talk about what success means to TCP, the discussion immediately transforms to a discussion about the customer and what success is for the customer. **There is a complete focus**

on the customer within TCP. Mr Meneguello explains that TCP's success is a direct consequence of a satisfied and successful customer. TCP needs to make sure that their part of the whole transportation chain – "from the vessel to the factory and from the factory to the vessel" – flows without disturbances. TCP strives for providing

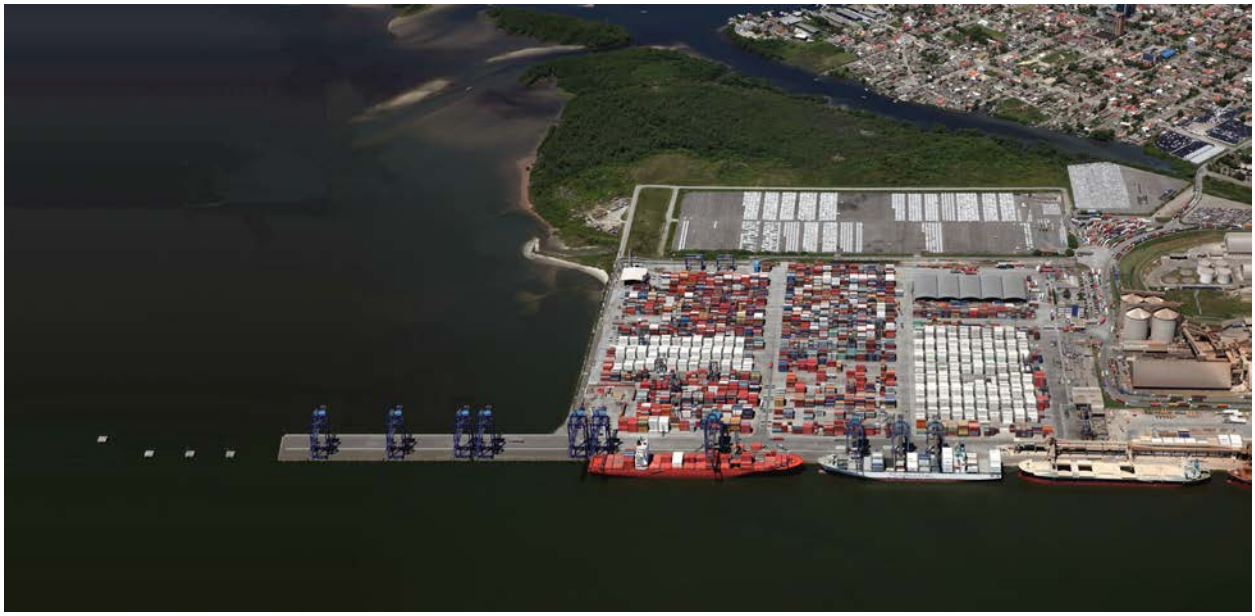
the best service available. **They believe that providing the best service – without compromises – is more valuable to the customer than offering the lowest price.**

Luiz Augusto Meneguello is heading the maintenance department. He joined the company and this position 2,5 years ago. Prior to joining TCP Mr Meneguello was working in a company building cranes – STS´s and RTG´s - for the Brazilian market. During that time he held various positions including Project Management and roles related to service and spare parts. This background forms an excellent base for the position he has today within TCP. He knows exactly what to expect and require from a serious supplier.

How is "best service available" achieved? TCP is using two key indicators to follow terminal performance: *Productivity* and *Availability*. Productivity is measured as number of moves per vessel and hour. TCP is one of the most productive terminals in Brazil with typical monthly averages of around 80 moves/hour. Mr Meneguello confirms that the status of the equipment is one of the most important factors influencing both productivity and availability. **A good preventive maintenance program is essential in order to reach the levels TCP is delivering.**

Monitoring the status of the equipment is important to TCP. When entering the maintenance department, one of the first things that you see is the big monitor on the wall showing the

status of the main equipment in the terminal. The screen provides an excellent overview for Meneguello and his crew in their daily planning and operation. Even though no specific data is available within the terminal, Mr Meneguelo confirms that the spreader has a big impact on the availability and consequently also productivity. This is particularly true for the STS spreaders as they work in an extremely challenging environment. Fast acceleration, abrupt



A photo montage showing what the TCP terminal will look like after the expansion.

deceleration and shocks when the container (and spreader) hits ground is part of the daily work of a STS spreader. It is important to make sure the spreader stays fit for purpose. Mr Meneguello and his maintenance team do this by having a rolling scheme of STS spreaders in the crane including one in the workshop for preventive maintenance.

Good equipment quality and good maintenance procedures go hand in hand. One will not be enough in order to achieve good productivity and availability numbers. Most of the STS spreaders are delivered from Bromma but two units are from a different supplier. **The Bromma spreaders perform much better when compared to the other brand,** Mr Meneguelo confirms. Also the RTG spreader fleet is a mix of two brands and here the share of the two spreader brands is fairly equal. Even though the difference in performance is less significant on the RTG's, the Bromma spreaders still performs better than the other spreader brand.

With the new extension and the new cranes coming into operation this year, TCP will be able to handle bigger vessels. The owners of the bigger vessels are requiring high productivity but the new cranes on a larger vessel also enable higher productivity. TCP will surely continue to improve as the new equipment come into operation.

In the selection process of equipment for the new extension a couple of consultants were engaged and involved. High quality equipment from a reliable business partner with good local support was key criteria when discussing alternatives. All involved in the discussion agreed that Bromma qualified to those criteria and were also in the end selected to supply the spreaders both for the STS cranes and the RTG's. *"By selecting Bromma we are sure we will get a good performance",* comments Mr Meneguello. Local support is a very important factor to get optimal value out of the equipment. *"We are getting a good support from Bromma in Brazil",* Meneguello continues.

Partners in Productivity

"One of the things of great importance to Bromma is to understand what is needed to maintain the preferred choice in the spreader selection process", comments Bromma Marketing Director Lars Meurling. "*We need to keep our ears close to the ground to understand what is expected of us"* he continues.

So what are the expectations on Bromma? *"When we think about Bromma we think about News!! We read about new technology in the Bromma report",* Mr Meneguello says. *"We expect that Bromma continue to develop the equipment all the time" he continues.*

Driving innovation is in the genes of Bromma. As Michael Thysell, Head of R&D within Bromma puts it: *"Throughout the years Bromma has been the first company to introduce innovations and new ideas to container handling. We have invested in product development but also a lot in developing partnerships with highly performing customers. We will continue to do that. There is no limit to what results can be achieved when technology leaders team up with partners striving for operational excellence!".*

PARTNERS IN PRODUCTIVITY

GOLD STANDARD
TCP
Terminal de Contêineres de Paranaguá
BRAZIL

Excellence in Brazil

Football is in the heart of the Brazilian culture, a strong national symbol and a passion for many Brazilians. The skills and qualities of the individual players are merged into team excellence, hard for others to match.
Similar to a Brazilian football team, Terminal de Contêineres de Paranaguá TCP has managed to create a high performing team out of individually skilled people together with high performing systems and equipment. TCP is today one of the most productive container terminals in the country.

Constantly performing an average of more than 80 vessel moves per hour the terminal is offering an excellent service to the vessels calling the port.
TCP is one of the gold standard ports in container handling, which is why it is no surprise to find that Bromma spreaders is the preferred choice for the ship-to-shore cranes and RTG's . To succeed in container handling, you need the right equipment, and you need the right support.
You need a partner in productivity.

In Brazil, and everywhere,
Bromma is committed to helping our customers succeed.

A Tradition of Innovation

BROMMA

"*Every Challenge can be Turned into an Opportunity*"

- an Interview with Per-Anders Holmström

BR: Per-Anders, you joined Bromma eight years ago and have been managing the organization since then. Can you share some memorable events with us from this period?

There are a lot of nice and fun memories stretching from small things such as dinners together with colleagues and customers to business related highlights.
I remember my first reflection of Bromma as a company. I saw a very strong company culture throughout the global organization. I had experience as Managing Director from four different companies prior to joining Bromma but I had seen nothing like the Bromma culture before. The company has a long history which started in the early 60's. Bromma grew as the business grew but never to a point where individuals became anonymous. It is still a relatively small, niched company where all employees are engaged in the daily business. I believe this is one of the things that have had a strong influence on the Bromma company culture.
It is also inevitable not to mention something related to business success and the thing that first crosses my mind is the all-time high sales and delivery record from 2008. At the peak of terminal capacity expansion - before the economy fell – Bromma was enjoying our share of business and delivered more than 1000 crane spreaders in 2008.

BR: I am sure there have been challenges as well!

Yes, of course! All companies have their challenges as well. After the peak year in 2008, order intake fell by 60% in spring 2009. I remember this period with fear. Measures had to be taken and we managed to keep our heads above the water despite the dramatic change in business climate.

One of the bigger challenges though was a quality defect we had to address in 2008. A systematic manufacturing deficiency were discovered which we had to correct in the field. We spent an awful lot of time and money to correct the deficiency. This is obviously something I would have liked never to happen.

A wise man said that every challenge can be turned into an opportunity. I dare to say that we managed to turn our challenge into something that strengthened our relationship with many or our customers. Other companies would probably not have been able to handle the issue the way we did and many customers have commented

that. We proved that Bromma is a partner our customer can rely on. We will never walk away from a problem. The way we handled the situation in 2008 and 2009 has strengthened our profile as a reliable partner.

BR: What was the effect of the significant order drop mentioned during spring 2009?

We were forced to take measures and to adapt the cost level. In the state of uncertainty, some people decided to leave the company. We had to face the situation with fresh eyes, be creative and consider alternative ways of doing things.

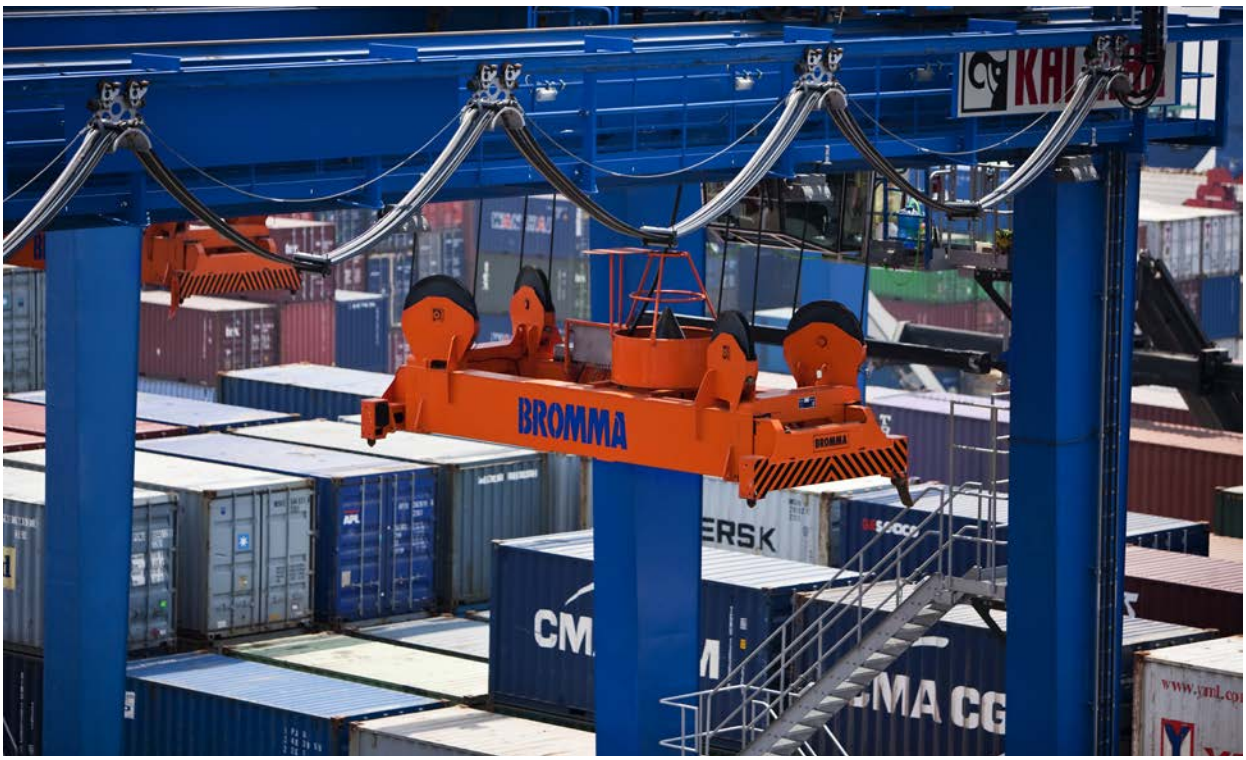
Since that tough period the business has slowly been coming back. Bromma has strengthened the organization. Many young and intelligent people have joined the company. My management team is with two exceptions completely new since 2008. I dare to say that taking us through the tough period of economic and personnel turbulence has strengthened Bromma as a company moving forward.

BR: You have been the leader of a successful Bromma for eight years now. What is your secret?

My role is to find extraordinary people whose skills and competencies complement each other. We have a very good team today with many good people who can grow in the organization. I am extremely proud of the complete Bromma organization and what we are achieving together.
I have to confess though that I also love being involved in the daily business. There is nothing generating so much energy as being in the final negotiations of a larger business deal. I even enjoy getting yelled at by a customer. Such a situation really indicates that the customer is concerned with and cares about our business relationship. The situation would be much worse if the customers kept their mouth shut and did not tell us about what areas we can improve in.
We need to be close to our customers. We need to listen to what they say and understand their challenges. We need to have different background and represent different cultures in order to understand the different cultures of our customers around the world. This is something I preach every day since I believe it is vital for us if we want to remain successful.

BR: I understand that Bromma very early realized the value of producing locally in Asia. What was the background to this and why did you choose Malaysia for your production?

We established production in Asia already in early 1991. At this time we received significant orders for spreaders for delivery to PSA and HIT.



We decided to produce in Singapore through local workshops but supervised by Swedish personnel. All material for the spreaders during this period was supplied from Sweden. Orders continued to come in why we maintained this production setup.
A few years later the order volumes kept coming in and it was time to take the next step. In 1995 we opened our production plant in Malaysia. The arguments for choosing Ipoh in Malaysia was based on several arguments of which availability of skilled resources, culture and language (English) were the most important ones.
The fact that we decided to establish our manufacturing in Malaysia 20 years ago is probably an important factor why we have managed to stay in the market leading position we enjoy today.

BR: How do you see the container handling market develop in the years to come?

The container traffic market is directly linked to GDP growth. Even though the factor between GDP growth and container traffic growth is lower today, the correlation still exists. GDP growth is in turn linked to the population in the world and the ability to increase its prosperity.

Looking at individual markets Asia will continue to grow. The rapid economic growth will drive the market. An interesting area is sub-Saharan Africa. About 1 billion people live in sub-Saharan Africa today and the good thing for people in this area is that there are natural resources to support an accelerated economic growth. It is also encouraging to see that many of these countries are now starting to see a level of stability in their political systems. The latter, I believe, is a prerequisite for the economy to grow.
Finally it appears obvious that also South America and Mexico will grow faster than the big established consumer markets in North America and Europe.

Based on my experience from the companies in which I have had the Managing Director position I have learned that it is a privilege to work in markets with an basic underlying market growth. Container traffic is certainly such a market and will continue to grow for a long time.

BR: What will Bromma do to be prepared for the future?

The Bromma production site in Malaysia was opened already in 1995. Today the factory house more than 500 employees and has a production capacity of more than 2000 spreaders per year.

Per-Anders Holmström is convinced the Asian market will continue to grow and that it will be an important region for Bromma the years to come.

We will continue to develop our spreader offering. I foresee that an important part of the spreader development to come will be related to increasing the intelligence through various sensor technologies and related software. The software systems we have and will continue to develop is something I strongly believe have a bright future.
We will also look into other product areas to complement our spreader business. Having several product areas is a way of spreading business risk should your main business for some reason decrease. The Automatic Lashing system currently under final stages of development is such an example of product diversification.
Asia will be the fastest growing market for the next couple of years. In order to secure and even improve our position in Asia we need to expand our footprint and be there. Bromma is a healthy business which makes it possible for us to expand our operation in general but with an obvious focus on where the growth is.

BR: What are the challenges related to geographical expansion?

I am sure we will face challenges moving forward. A tough challenge is handling different business cultures in different parts of the world. We are facing competition in some countries which are not following the same ethical rules as Bromma strictly follows.

We need to understand cultural aspects in general: What is it the customer really wants and need? I believe that we may have to consider alliances to bridge cultural differences in order to make business progress.
Bromma is an organization with a very strong company culture. Everyone in the company have a good understanding of the customers we are serving. It is a performance culture which makes the individual walk the extra mile to support our customers. The company culture will be one of the success factors for Bromma moving forward.

BR: Thank you Per-Anders

Certifiably Bromma

One of the general requirements often seen in *Requirement Specifications* is for the equipment to be produced in a factory certified to ISO9001. To assure the reader and customer about Brommas commitment to secure quality, health, safety and environment, Bromma Report takes a look at what certification Bromma maintains.

Bromma production is certified to ISO9001, ISO14001, OHSAS 18001 and ISO3834. This means that the company has audited systems in place to manage general quality, welding quality specifically, environment, and health and safety aspects in the daily operations.

ISO 9001

The ISO 9000 family of standards is related to quality management systems and designed to help organizations ensure that they meet the needs of customers and other stakeholders, while meeting statutory and regulatory requirements related to the product. The Bromma production has been certified to ISO 9001 since 2007.

ISO 14001

ISO 14000 is a family of standards related to environmental management that exists to help organizations; minimize how their operations negatively affect the environment (i.e. cause adverse changes to air, water, or land), comply with applicable laws, regulations, and other environmentally oriented requirements, and continually improve in the above. ISO 14000 is similar to ISO 9000 quality management in that both pertain to the process of how a product is produced, rather than to the product itself.

ISO 3834

ISO 3834 is the international standard which sets out requirements for manufacturers to meet in order to apply good practice in their welding operations. Bromma is ISO 3834 certified since 2012.

OHSAS 18001

OHSAS 18001 is a British Standard for occupational health and safety management systems. It exists to help organizations put in place demonstrably sound occupational health and safety performance, and it is widely seen as the world's most recognized occupational health and safety management systems standard. An occupational health and safety management system (OHSMS) promotes a safe and healthy working environment by providing a framework that helps organizations to: consistently identify and control health and safety risks; reduce the potential for accidents; aid legislative compliance; and improve overall performance. The OHSAS has been implemented at the Bromma production since 2011.

Know What Components Can *Make* or *Break* Your Operation

As a load carrying component, the twistlock pin is one of the most critical parts on a container crane spreader. Specification, design, material selection, manufacturing and quality control are all crucial steps in producing a high quality component. When you are operating a highly productive terminal under safe operating conditions, this is not a component to make compromises on.

Unfortunately there are suppliers as well as users of the equipment underestimating the importance of the pin! The implications of a sub-standard twistlock pin can be serious. The risk of damages to equipment and accidents involving humans must not be overseen.

Too Much at Stake Not to Go With Original Spare Parts

All Bromma spreaders, including the various components and parts, go through extensive verification procedures as part of the development process. Field tests are complemented with laboratory bench testing such as the ability to withstand shock and vibration. Bromma original spare parts are no exception to these procedures. This is one of the reasons why terminals should pay attention to wow spare parts are sourced. The risk is too high using copies of


CERTIFICATE

TWISTLOCK PINS according to drawing No 1030309 with serial number WS 6128-6143 are tension tested with 40t and approved.

Forged from steel charge 10842 and marked with W14 have been quenched and tempered to a hardness of 289-322 HB.

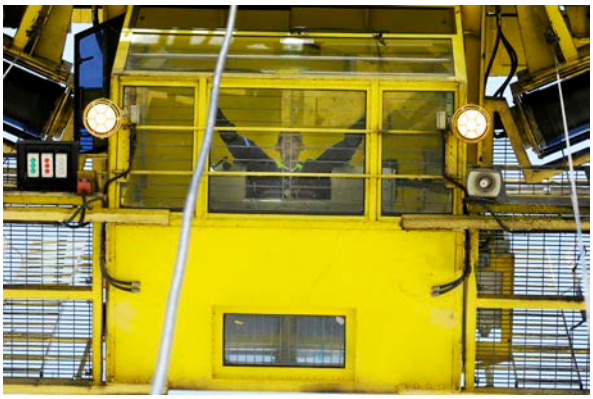
This certificate certify that the SWL for this Twistlock Pin is: 25t

Componenta Winsbo AB

2013-07-02

Signature

Jonas Löfberg



critical components instead of original spare parts. For the past decades Bromma spreaders and components have through hard work proven the right to exist in the terminal environment. All twistlock pins (including nut) from Bromma are proof loaded, certified and fully traceable to steel charge from the engraved marking on each individual pin.

Striving for Excellence - a Continuous Process

To stay on top a company has to invest in product development. To Bromma this has been a key to success. As a result of continued product development Bromma now introduces a new improved twistlock pin. The new pin will be delivered on spreaders from beginning of 2014. The new twistlock pin is interchangeable with previous Bromma standard and retrofit pins. This means the new pin can be used on about 90% of the installed base of Bromma ship-to-shore, yard and mobile harbor crane spreaders. Key benefits include increased durability and the simplicity of having one pin only regardless of spreader.

Strengthened Position in Yard Spreaders

Yard Crane Spreader Orders Dominate the Order Book in September-December 2013

Bromma, maintains the good order intake trend. The period September – December 2013 shows similar order intake volumes as earlier this year but the mix between Yard spreaders and STS spreaders is more normal than the order intake mix for the first 8 months of the year. The high share of replacement spreader orders earlier in the year is this period balanced by a high volume of Yard spreaders for both RTG's and ASC's. The orders reflect a good geographical split between the different parts of the world.

New Order for All-Electric Greenline™ Spreaders

- An order for 21 YSX40E have been received for PSA Saudi Global Ports in Dammam
- An order have been received for 25 YSX40E for Asya Port, Turkey
- 17 YSX45E have been ordered for Trapac, USA. This is the delivery of spreaders for the second phase of ACS's going into the terminal.

In addition, the following major orders have been received:

- 14 YSX45E for SNCT, Korea
- 14 YSX40E for Libra Terminals, Brazil
- 10 YSX45E for Port of Oslo, Norway
- 7 YSX40E for MultiRio, Brazil
- 6 YSX45E for SICT in Sydney
- 5 YSX40E for Port of Noire, Rep of Congo
- 5 YSX40E for Port of Douala, Cameroon
- 5 YSX40E for Lagos, Nigeria
- 6 YSX40E for TPS Surabaya Indonesia
- 6 YSX40E for Evergreen, Thailand

New Orders for separating twin spreaders

- 11 separating twin yard spreaders YTS45 have been ordered for TCP, Brazil. These spreaders will be used in the extension of the terminal to be in operation in Q3 2014.

The order for ship-to-shore spreaders for the expansion was received by Bromma earlier this year.

Major Orders for Separating Twin Ship-to-Shore Crane Spreaders Received:

- 6 STS45 for Port of Houston, USA
- 5 STS45 for SNCT, Korea
- 4 STS45 from PSA Sines, Portugal
- 4 STS45 from Georgia Port, USA
- 4 STS45 from APMT Algeciras, Spain

All-Electric Spreaders Dominate the Yard

More than 90% of the spreaders for RTG, RMG and ASC operation from Bromma today are all-electric Greenline™ spreaders.

Bromma all-electric spreaders are being specified by customers due to their inherent reliability, as well as their environmental and economic benefits. Due to fewer service points, lighter weight, and the absence of any hydraulics, Bromma all-electric spreaders have higher availability, simplified maintenance requirements, require less power, produce fewer emissions, and offer tough durability.