

## STEEL MILL MARKET. . COMMITTED TO SERVING YOU!

Domestic steel producers are currently experiencing an interesting, though difficult, business environment. The surging demand for steel in China and other growing economies continues to send the price of raw materials soaring, while other input costs such as energy and transportation rise as well. But despite these rising prices and the threat of a recession, demand remains strong; and due to the weakened dollar the amount of U.S. exports are beginning to increase.

Unfortunately for the steel industry, they are in direct competition for large tapered roller bearing capacity with the wind energy and oil field markets – two other fields that remain strong. This means limited availability and increasing lead times of the roll neck bearings used in this market, and that's one big headache for steel producers.



This is why NTN has made a commitment to better serve the steel market. NTN has invested millions in expanding production capacity of our large tapered roller bearings at our Bower production facility in Macomb, IL. Floor space increased from 450,000 square feet to over 700,000 sq. ft.

With the increased capacity, NTN is able to offer NTN•Bower roll neck bearings with lead times 8-10 months or shorter. This includes many common sizes found in steel mills throughout the country. A partial list can be found later in this newsletter.

And as always, NTN offers a wide number of the standard small and medium sized tapered roller bearings used in mills as well.

NTN looks forward to serving all your steel market bearing needs.

*Best Regards,*  
*Chris McGovern, Market Analyst*  
NTN Bearing Corporation Of America



*Chris McGovern*

### SALES OFFICES:

#### EASTERN REGION

191 Sheree Blvd. Suite 101  
Exton, PA 19341  
Tel: (610) 524-1477  
1-800-394-4666  
Fax: (610) 524-1577

#### SOUTHEAST REGION

5475 Peachtree Industrial Blvd.  
Norcross, GA 30092  
Tel: (770) 448-4710  
1-800-241-0568  
Fax: (770) 448-6969

#### GREAT LAKES REGION

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Mt. Prospect, IL 60056  
Tel: (847) 298-7500  
1-800-252-8123  
Fax: (847) 294-1364

#### CENTRAL REGION

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Suite 310  
East Peoria, IL 61611  
Tel: (309) 699-8600  
1-800-545-0434  
Fax: (309) 699-8670

#### WESTERN REGION

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Suite 108A  
Irving, TX 75063-2708  
Tel: (972) 751-1818  
1-800-441-0825  
Fax: (972) 751-1836

#### AUTOMOTIVE GROUP

39255 West 12 Mile Rd.  
Farmington Hills, MI 48331  
Tel: (248) 324-4700  
1-800-929-3892  
Fax: (248) 324-1103

#### CORPORATE OFFICE

1600 East Bishop Court  
Mt. Prospect, IL 60056  
Tel: (847) 298-7500  
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Fax: (847) 294-1230

# INNOVATION

## EA CASE CARBURIZED BEARINGS WITH AUSTENITE STRENGTHENING

The steel making industry has been undergoing a restructuring, hoping to position itself to produce as much as its strained facilities and raw material availability will allow.

In order to reach this goal, it is vital that machine and line downtime is minimized while extending maintenance intervals. Accordingly, the durability of bearings used in this industry is **vital**. In response to these industry demands, NTN has developed the EA Surface Treatment that ensures longer operating life under severe conditions.

EA bearings have a particularly strong advantage by providing longer operating life due to their improved crack fatigue strength, wear strength and peeling resistance characteristics. This is especially true when the lubricant is contaminated, but also under clean lubricant conditions as well.



*Work Roll Bearing*

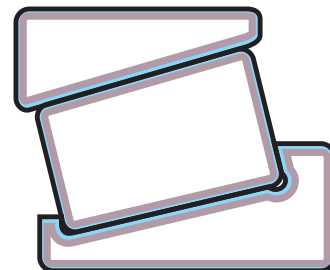
### FEATURES: EA SURFACE TREATMENT




- ***5x longer life under contaminated lubrication***
- ***2x longer life under clean lubrication***
- ***Peeling strength is improved by a factor of 3***
- ***Wear strength is improved by a factor of 2***

NTN's EA Surface Treatment has been well received in the industry in hot rolling machine applications.

Additionally, EA Treated bearings can be used in mining and ore processing applications where marginal lubrication, vibrations and impact loads often exist. The EA bearings provide advantages due to their compact design, longer operating life, and longer intervals between maintenance services.

*NTN will continue to develop products in response to stated customer need. In so doing NTN will remain a world-class producer of precision bearings used world wide in every industry.*



-  *Compound layer of carburized and nitrided materials*
-  *Carburized layer*
-  *Core*



# BOWER®

## LARGE SIZE TAPERED ROLLER BEARINGS

**Supplying the steel industry has become quite a concern as bearing manufacturers are experiencing availability shortages of large size tapered roller bearings. NTN has made huge investments in order to expand production capabilities in response to this industry-wide production capacity shortage. Particular focus has been directed toward benefiting rolling mills in the United States.**

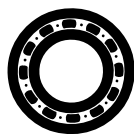
The steel industry is demanding expanded availability of large bore bearings. NTN is answering the call by investing millions of dollars in order to broaden its current production capacity to better serve our valued customers. In keeping with Bower's tradition of high quality, heavy-duty bearings, each of these products is made of the highest quality case carburized grade steels.

NTN•Bower, the second largest producer of tapered roller bearing product in North America, features experienced staff and state-of-the-art manufacturing facilities in Macomb, IL and Hamilton, AL. Lead times from these US facilities for large size tapered roller bearings used in rolling mills are as short as 8-10 months or less. NTN continues to be a leader in bearing excellence and reliability.

**The table below lists a few of the common sizes planned for production at NTN•Bower in 2008-2009**

Bower P/N	Bore (Inches)	OD (Inches)	Width (Inches)	Sealed?	Application
LM761649DW/LM761610/LM761610DCB120	13.5	18.00	10.00		13.5" workroll
LM761649DW/LM761610/LM761610DCB120	13.5	18.00	10.00	Y	13.5" sealed workroll
LM763449DW/LM763410/LM763410DCB120	14.0	19.0	10.63		14" workroll
BT281449DGA/BT281410/BT281410XDCB160VW1	19.0	24.25	13.00	Y	19" sealed workroll
BT981049DWPW4/BT981010PW2	20.08	28.875	7.87		Hot strip mill
BT281249DGAPW4/JBT281210PK/ BT281210XDPW4CB150VW1	20.08	25.79	14.92	Y	20" sealed workroll
L281100BN1XDGWA/L281110/L281110CDCB110	26.0	32.0	14.38		Cutting machine
BT272049DGAPW4/JBT272010PK/BT272010XDPW4CB150VW1	15.35	20.08	13.78	Y	Sealed workroll
M272749D/M272710+ACB70	18.875	26.750	9.375		Vertical edger
L770849DWM1/L770810/L770810DCB170	18.0	23.5	11.0		18" workroll
E-EE135111DW/135155/135156DE1CS203	11.0	15.5	10.625		11" workroll
LM286200BN1XDGWA/LM286210/L286210CDCB110	34.0	44.5	26.375		34" workroll

Contact your NTN sales representative for detailed information on these or any other steel inquiry you may have.



# Dr. Pete's

# C O R N E R

PETER LORENTZ  
Sr. Product Analysis Engineer  
NTN - Wheeling Test Lab

## RUST GUARD™ : HIGHLY CORROSION-RESISTANT BEARINGS

Steel mill machinery operates in the harshest of environments and so do the bearings contained within.

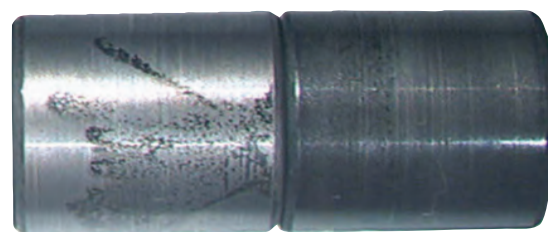
Adding to the problem is increased maintenance time that allows the buildup of moisture from various rolling processes. Faced with these problems, the steel industry demands longer life bearings to keep production lines running. In response to these demands, NTN developed a line of highly corrosion-resistant bearings featuring "Rust Guard".

Flaking is a typical bearing failure mode that begins either below the race way (sub-surface) or at the surface itself. The main cause of this surface deterioration is the ingress of water present during the rolling mill process. In order to ensure reliable bearing operation, surface type flaking must be prevented before its formation. This can be done with NTN's "Rust Guard" technology, a corrosion resistant application that improves upon the phosphate technology previously employed.

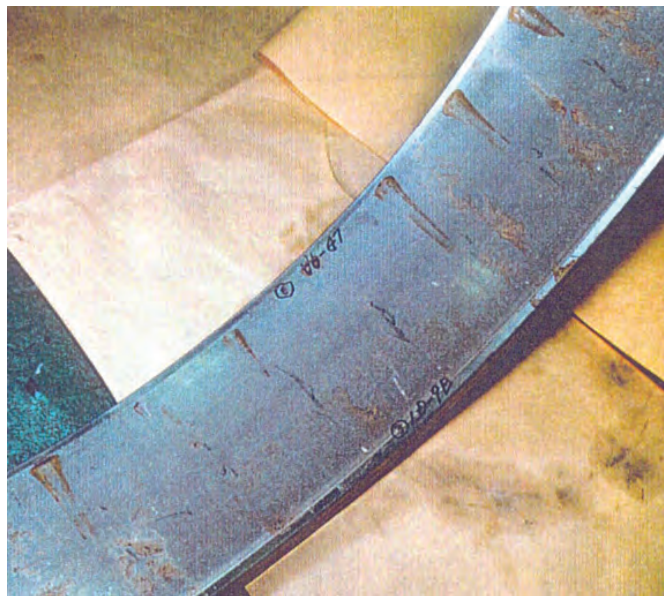
Due to raceway surface deterioration during the coating process, bearing raceways cannot be phosphate treated. To address this situation, NTN developed a corrosion resistant coating featuring optimized miniature crystal size, thus preventing surface deterioration.

Operating conditions for roll neck bearings on rolling machines are demanding and the steel industry requires reliable bearings to withstand the environment. NTN's "Rust Guard" was developed for a variety of steel mill processes such as work, back up and hot rolls as well as continuous casting machines.

*Non Rust Guard  
Treated*



*Rust Guard  
Treated*



*Downtime-Induced Rust*

***"Rust Guard" is the result of NTN's continued technological commitment to our customers.***

# CUSTOMER SERVICE

## THE CONSTANT STRIVE FOR CONTINUOUS IMPROVEMENT

Customer Service is often defined as the ability to address and satisfy the needs of an individual on a constant and consistent basis. NTN defines Customer Service as the ability to address and satisfy the needs of our customers so that our performance exceeds their expectations.

This definition goes beyond the traditional way we think about Customer Service. In today's global manufacturing and supply chain environment, Customer Service involves areas that do not come in direct contact with the customer. Manufacturing, Purchasing, Logistics and Quality Control employees may never talk to the end user of our products, yet they are vital in addressing and helping to meet each customer's needs. The actions of each department within NTN ultimately impacts Customer Service. We all must pull together to provide and maintain the highest level of Customer Service in the industry.

In order to address, fulfill and exceed the needs of our customers, NTN has refocused its entire range of business functions to satisfy the individual needs of each customer. To insure that NTN fully optimizes its tools and processes throughout our five national customer service centers, a Director of Customer Service and IT position has been established. This position will oversee and synchronize the existing Customer Service functions located in Exton, PA – Peoria, IL – Norcross, GA – Irving, TX and Mt. Prospect, IL. A strong focus will be placed on the need to establish, practice and maintain uniformity in our processes, as well as guaranteeing that the overall service level that NTN offers becomes the benchmark for our competitors.

NTN believes that in order to exceed customer expectations, we need to continuously focus our improvement efforts in three areas: customer friendly processes, employee commitment, and customer dialog. Some examples of recent changes being implemented include:

- Introduction of new phone system that will assist our customers in choosing the correct department to contact, while minimizing the time waiting to be assisted by a representative.
- Development of a new "lost opportunities database" that will audit inventory levels to make sure that customer demand is met for the entire product line.
- Monitoring of internal performance through feedback received from customers surveys, which will measure and monitor our performance.

Customer Service can no longer be thought of as the responsibility of a single Department. Each of us plays an important role to guarantee that NTN exceeds the service and quality expectations of its customers on a daily basis

## LOOKING FOR ADDITIONAL TRAINING



WEB BASED TRAINING PROGRAM

### DISTRIBUTOR TRAINING SCHOOL

May 13 - 15  
September 9 - 11  
November 11 - 13

### PROFESSIONAL BEARING MAINTENANCE TRAINING PROGRAM



TECHNICAL TRAINING UNIT

# NTN®

LEARN FROM **THE BEST.**

VISIT **BOOTH 2608**

MAY 5, 6 & 7TH



## BEARING SOLUTIONS

THE POWER THE DIVERSE NEEDS  
OF THE STEEL INDUSTRY

*When you are trying to eliminate costly and unpredictable downtime, you can't afford to take a chance on bearing failure. That's why NTN offers a wide variety of bearings designed specifically for steel mills that have been proven to have some of the best performance records in the industry. Visit NTN's Technical Training Unit on display at Booth #2608 to learn how NTN's short lead times and extensive coverage of locally produced bearings can help you!*



The  
Iron & Steel  
Technology  
Conference and  
Exposition

DAVID L. LAWRENCE CONV. CTR - PITTSBURGH, PA

Contact Your Local NTN Sales Representative For More Information On Any Of Our Training Programs



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**UPCOMING TRADESHOWS**

MAY 5 - 8, 2008

**BOOTH #2608**



The  
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Exposition

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JUNE 22-24, 2008

**BOOTH #1510**



THE GAYLORD TEXAN - DALLAS, TX

[WWW.NTNAMERICA.COM](http://WWW.NTNAMERICA.COM)



**NTN<sup>®</sup> MVP**

**JIM MISCH**

*Director of Customer Service and IT*

Six Sigma has been improving efficiency for companies worldwide since the 1980s. Often applied to manufacturing processes, aspects of Six Sigma can be applied to day-to-day functions in order to obtain and perfect operational excellence. Jim Misch, NTN's newly appointed Director of Customer Service and IT, was NTN's first full-time Six Sigma black belt. In his new role, Jim will oversee NTN's five Customer Service Call Centers, with the focus of providing and maintaining uniformity in all territories by applying principles learned in part from Six Sigma. He will be responsible for NTN's IT department, which will work hand in hand with not only Customer Service but all departments at NTN. Jim started with NTN in 1990, after graduating from Purdue University with a degree in Mechanical Engineering.

**WE ASKED JIM TO SHARE SOME PERSONAL INSIGHT ON THE FOLLOWING SUBJECTS...**

**Congratulations on the new position. What are some changes this role brings?**

*As a full-time Six Sigma Black Belt, my responsibilities focused on a specific project team. We would only address the details or particulars of a Six Sigma project, staying focused on that process until completion. Now, I am managing a whole family. Each of our regions used to be segmented and somewhat isolated, each having their own process. My goal is to streamline and introduce consistency to each center, which will allow us to create a template for best practice throughout the country. Once implemented, each Regional Manager will be able to concentrate on growing the business.*

**What aspects of Six Sigma can be applied to this position?**

*The biggest thing I'm taking from Six Sigma is problem-solving processes. This applies to both the Customer Service and IT departments. We can collect data to validate and solve the root causes of system failures or flaws in our processes and business practices. Six Sigma allows the data to do all the talking, which eliminates managing by emotion. Six Sigma uses a lot of process maps, which we will create and document. Many employees will be surprised to learn how many of their daily tasks cross over into different departments. This documentation and procedure definition will improve efficiency. We can break down barriers between departments and look at the whole picture versus looking at just one part of it.*