Steel purity creates **bearing design opportunities**

The importance of clean bearing steel is increasing together with the demand for high precision, excellent quality bearings for more and more demanding applications on the market. OVAKO's BQ steel is considered as one of the most clean and suitable within the bearing industry.

BQ-Steel® (Bearing Quality) has for decades been the problem-solver in the bearing industriy. It is optimized for fatigue strength by a strict control of steel cleanness. The same approach to fatigue performance is now being applied in many other applications.

The extended performance, higher loads, and high cleanness are a result of the Ovako clean steel program. Purity of production means that the material has significantly smaller inclusions compared to conventional steel and, as a result, the fatigue strength of the steel is increased dramatically.

Component downsizing and increased loading are issues facing manufacturers today as space restrictions and lower operating weight are driven by energy conservation. High strength and high fatigue resistance facilitate the manufacture of components to meet the requirements of today and tomorrow. This is true for industries where high cyclical loading is an issue.

We tried to understand the importance of BQ-Steel specifications for producing high quality bearings during an interview with Mr. Mikael Östman - Key Account Manager Bearing at Ovako Sweden AB.

1) What is your role at Ovako?

Leader of the Bearing segment and Strategic Account Manager for one of the major Bearing OEMs.

2) Can you shortly brief us about Ovako's evolution and experience in producing bearing steel?

Ovako has produced bearing steels for more than 100 years. The Hofors mill was bought by SKF in 1916 and then became SKF Steel. The steel development was coordinated together with the SKF Bearing plants for the coming century which put Ovako into the very high quality position we have today.

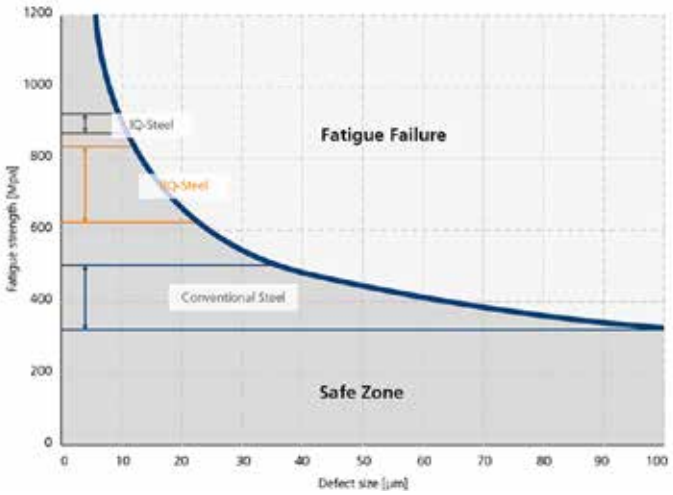
3) Why did Ovako start the BQ-Steel program?

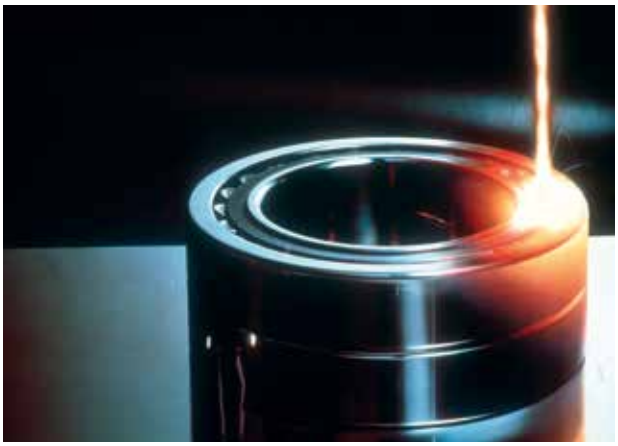
BQ is not a program, it is a well-defined quality level which is applied for all kinds of steels. The BQ (Bearing Quality) means a high quality level which is suitable for bearings and other highly demanding applications.

4) Which were the biggest challenges you had to deal with during the development of BQ-Steel?

The BQ level has evolved during many years of development, investments and production experience. The major challenge is to maintain a high repeatability and uniform results

Mikael Östman
Key Account Manager Bearing at Ovako Sweden AB.





continuously. Another challenge is to find suitable test methods as the BQ steels are very clean and therefore require more advanced test methods.

5) What is the difference of BQ-Steel in comparison with other bearing steels?

All bearing steels produced within Ovako qualify for the BQ quality level. Compared to other bearing steels on the market Ovako BQ is a premium steel with well-defined properties and a very high quality consistency.

6) How different is the production process of BQ-Steel?

It is the normal production process in the Hofors steel mill.

7) Can you tell us more about the quality level?

It is a well-defined quality level which meets all major Bearing customers' premium steel specifications. It is continuously tested by advanced testing equipment such as Ultra-Sonic to guarantee a high repeatability from one production lot (heat) to another.

Advantages of BQ-Steel®

- *30–90 percent higher bending fatigue strength in simple load cases, depending on steel used today*
- *Up to 70 percent higher bending fatigue strength in multiaxial load cases, depending on steel used today*

8) Is BQ-Steel also useful for other industries outside the bearing domain?

Yes, it is used for all kind of highly loaded products, especially in applications with high fatigue demands as gears and mining tools.

9) Which other bearing steels do you produce?

All bearing grades are classified as BQ or even IQ which is an even higher quality level.

10) Are there any services that you offer for customers?

Ovako has a large package of different services that are offered to our customers. These include different stocking solutions, IT-solutions as Electronic Data Interchange (EDI) that supports formal communication with customers, material processing services as soft turning, as well as problem solving and development with customers and many more services.

11) How do you see the future of bearing production?

Bearings will always be needed and steel will remain as an important component even though other materials as ceramics developing. The quality level of the materials needs to improve further as bearings probably need to downsize to follow industry trends, for example the trend within Automotive power trains. The development of electrical cars is imposing much higher revolutions into bearings, therefore this will lead to demand for higher material quality.