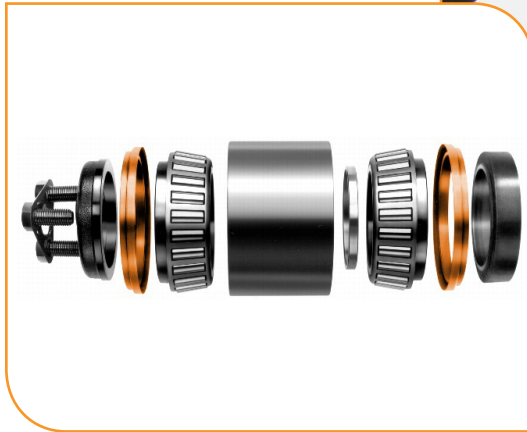


Timken Cartridge Bearings Help Increase Load Capacity by 20 Percent

TIMKEN

Where You Turn

Case Study 30 • Case Study 30 • Case Study 30 • Case Study 30 • Case Study 30 • Case Study 30 • Case Study 30



Customer

Rana Gruber AS
Moi i Rana, Norway

Market

Rail

Application

Freight Cars

The Timken Advantage

Timken(r) AP-2(TM) cartridge bearings helped Rana Gruber:

- Modernize its fleet and increase load capacity by 20 percent
- Improve safety and reliability
- Maximize bearing performance in harsh conditions

Timken recently supplied Norwegian mining company Rana Gruber AS with cartridge bearings that significantly increased the load capacity of freight cars transporting iron ore. Rana Gruber is Timken's first rail customer in Norway, where extensive upgrading of rail freight operations is expected within the coming years.

Rana Gruber's goal was to modernize its fleet and increase load capacity. This involved installing new axles and wheels, and Timken proposed a solution that included Timken® AP-2™ Class K cartridge bearings set in adapters that permit simpler assembly and easier maintenance. The adapter solution is common in North American freight applications and is becoming more popular in Europe.

Timken's solution has enabled Rana Gruber to increase load capacity on its box cars by 20 percent and significantly lower operating costs.

With tapered roller bearings, seals and a housing in a pre-lubricated package, the compact and lightweight AP-2 design supports heavier weights and improves safety and reliability. Integrated HDL sealing technology protects against bearing malfunction and improves fuel efficiency by operating with lower torque.

"We have significant experience in maximizing bearing performance in harsh conditions and so were able to engineer a system for Rana Gruber that would

achieve its goal of transporting heavier loads,” says Marcus Pauels, manager of European sales and marketing for Timken’s rail operations.

“The support of a supplier with a clear understanding of our needs was especially important to us, and Timken was able to provide us with the expertise and product that we needed,” says Arve Lein, managing director of Rana Gruber.

Since its formation in 1936, Rana Gruber AS, Norway, has specialized in the extraction and reduction of iron ores from its own deposits in the Dunderland valley near Storforshei. Each year it extracts about 1.6 million metric tons of iron ore (about 1.4 million U.S. tons) and processes it in a variety of ways. Its offering encompasses traditional bulk materials and special products for sophisticated applications.

TIMKEN
Where You Turn

Bearings • Steel •
Precision Components • Lubrication •
Seals • Remanufacture and Repair •
Industrial Services
www.timken.com

Timken® is a registered trademark
of The Timken Company

©2007 The Timken Company
Printed in U.S.A.