

Schaeffler Global Technology Solutions

Raw material extraction and processing

C. u. A. Heiderich GmbH, Ennepetal, Germany

Operational safety achieved in a heavy-duty conveying system in less than 6 months

Customer

The company C. u. A. Heiderich GmbH has been a key manufacturer of welded rope sheaves, blocks and hook blocks for approximately 100 years. The medium-sized company is responsible for supplying and producing components for conveying equipment worldwide.

Challenge for Schaeffler

C. u. A. Heiderich GmbH received an order to produce heavy-duty rope sheaves for a shaft-sinking facility for the company Deilmann-Haniel GmbH in Belarus and to supply these parts in less than 6 months. In addition to the significant time pressure involved, the load in excess of 91 tons and the requirement for a temperature suitability of minus 20° C also posed a further challenge in the custom production of bearing components for the rope sheaves. In order to achieve the notched bar impact strength at low temperatures, a specific material was required. For the design of the bearing arrangements in the rope sheaves, the Sauerland-based company sought assistance from Schaeffler.

Schaeffler Solution

Taking into account the design envelope, load and operating conditions, Schaeffler experts recommended the use of FAG SNS plummer block housings and spherical roller bearings with a cylindrical shaft seat. A special version of the spheroidal graphite cast iron material with low-temperature suitability was manufactured specifically for the housings, as the standard grey cast iron typically used could fail and break up at lower temperatures. The bearings were redimensioned in accordance with the requirements and filled with a low-temperature grease, which is also suitable for operating temperatures as low as minus 20° C.



Technical Information about the application

Rope sheave bearing arrangement

Speed

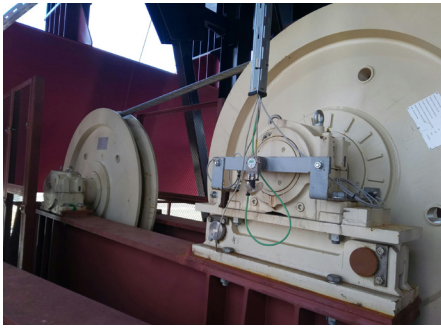
13 - 15 min⁻¹

Load

Up to 900 kN

Application

Heavy-duty hoists



Mounted rope sheaves in the conveyor system with SNS housing and spherical roller bearing



Rope sheaves with FAG plummer block housings and internal spherical roller bearing



Close-up view of rope sheaves with FAG plummer block housings and internal spherical roller bearing

Customer Benefits

- High operational reliability due to robust design
- Punctual start-up due to good delivery performance
- Ensured bearing life due to the use of spheroidal graphite cast iron

Thanks to the professional commitment of all involved, the shaft-sinking facility was able to commence operation on schedule. The solution gives the customer peace of mind that the conveyor system will withstand the extreme temperature and load requirements, thus giving customer satisfaction down the line.

Harald Weissflog, Managing Director of C. u. A. Heiderich GmbH

Our customers often require individual solutions, which is why we work with partners who we are sure will meet our high requirements. Schaeffler is therefore our preferred supplier in the area of bearing arrangements and service.

What's special

The material spheroidal graphite cast iron with low-temperature suitability is also being used in other application areas. This special version is being used successfully in the Mining and Processing sector in North Canada, Europe and Russia, for example in conveyor belt and crusher applications. As a result of its customer-oriented solutions, Schaeffler is being viewed as preferred supplier and reliable development partner for further projects.

Are you looking for a solution for your system? We will be happy to advise.

Contact

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Technical Information about the solution

Housings and bearings

- 28 plummer block housings F-631378.SNS3140-Z-D, material EN-GJS-400-18-LT
- 28 spherical roller bearings 23140-BE-XL
- 28 seals NTS48

Housings and bearings

- 4 plummer block housings F-631463.SNS3038-H-D, material EN-GJS-400-18-LT
- 4 spherical roller bearings 23232-E1A-XL-M
- 4 seals NTS38/180