The Importance of Correct Shaft Alignment Design for Bearing Bush Durability

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Having a good bush material does not guarantee long and happy life of a bearing. A vivid example is the case of wear of the bracket bearing bush made of the proven Thordon Compac material. Our company was invited to establish the reason why over 5 years of operation the maximum wear of the bearing bush, detected during the regular inspection, has reached 17 mm. It means that average wear rate for this bearing is 3,4 mm/year, while the wear rate declared by the Thordon company for this material is only 0,08÷0,20 mm/year.

After recalculation of old shaft alignment design bearing overloading was revealed. So there is nothing surprising in quick wear of the bearing. From the very beginning, the bearing worked in the mixed lubrication regime, and then, with increasing wear and radial clearance rise, it completely had switched to boundary lubrication regime. And only the exceptional antifriction properties of the Thordon Compac material allowed the bearing to work so long. It is not excluded that abrasive wear contributed to wear. Scratches on the internal surface of the bush indicate this.

Bearing bushes were replaced and shaft alignment was performed on the base of new shaft alignment design developed with ShaftDesigner software to provide bearings durability.