HIGH-TEMPERATURE GREASES FOR ROLLING BEARINGS

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ABSTRACT

Nowadays lubricating greases based on ester oil and polyphenyl ether and polyurea as thickener are used for the lubrication in the high temperature range up to 180 °C, whereas for temperatures exceeding 180 °C lubricating greases based on perfluoropolyether and PTFE, sodium complex soap or silicate as thickener are used.

Depending on the thickener, perfluoropolyether greases may be used for temperatures up to 260 or 300 °C. As the rolling bearing industry and end users are increasingly demanding lifetime lubricated rolling bearings for high-temperature applications at 140 °C and peaks of 200 °C, existing grease types are not able to fully meet such requirements.

A new type of grease might be the answer to this problem: a mixture of ester oil and perfluoropolyether oils which has not been possible so far. Special additives imparting corrosion protection, antiwear, extreme pressure and other properties can be added to this grease.

Such a grease will be the new product to cover a temperature range from –40 to 220 °C especially in the automotive field where up to now the above mentioned grease types have been used.