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TUNAP GIGALUBE – A NEW MILESTONE IN TRIBOLOGY

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Abstract:

The TUNAP Group of Companies Wolfratshausen, Germany, has developed a new generation of gear oils. Based on so far unknown synthetic tribofluids, these oils exhibit outstanding performance characteristics. To mention is a natural viscosity index of more than 26, caused by the chemical structure of the molecules. The already excellent characteristics of the base fluids (FZG >12) have been further improved by a newly developed additive package, designed to suit the unique molecular structure of the new base fluids. Due to the extremely high VI the performance of the new fluids can be utilized under all climatic conditions.

I. INTRODUCTION

The development of gear oils started with vegetable or mineral oils and developed with increasing demands of the users more and more towards synthetic fluids.

Synthetic fluids do have the advantage that the fitting base oil with the appropriate physical properties can be chosen so that result is better performance in those areas, desired by the application.

TUNAP GIGALUBE is a new synthetic fluid with outstanding properties regarding viscosity, friction reduction and the protection against wear. It outperforms esters, polyalphaolephins and polyglycols in those areas. The chemical base of the fluid is a polyether – a development which started as early as the 1940s and which was continued and completed to the readiness of the market just now.

II. VISCOSITY

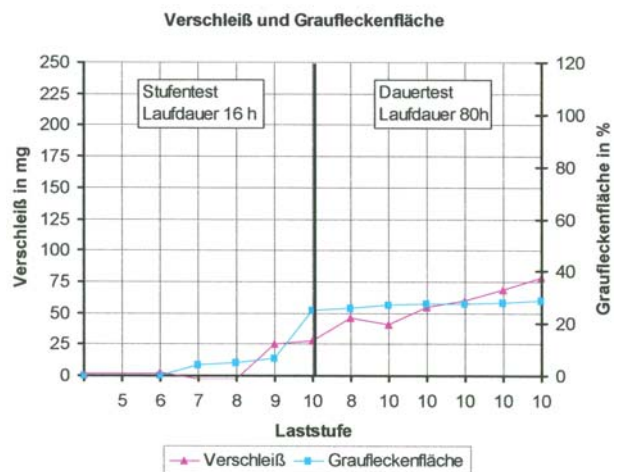
While the range of the Viscosity Index is 100-120 in a modern mineral based gear oil and 120-150 in a modern synthetic gear oil the Viscosity Index for TUNAP GIGALUBE is 265.

The high index is solely achieved by the “natural viscosity” of the oil and not by any supplementary VI improvers. This means that even

under very demanding conditions the problem of shearing does not effect TUNAP GIGALUBE. The oil will “stay in grade” for the complete lifetime.

The high VI index allows the customer either to go for “extra security” with a thicker lubricating film at higher temperatures or to use a lower base viscosity and thus reduce the viscosity based friction losses.

The exceptional performance over all temperature ranges is completed by a very low pourpoint. Again this is not achieved by any additional additives but the properties of the base fluid.



III. PROTECTION AGAINST WEAR

While the regular FZG test is even mastered by the pure base oil (FZG range > 12) the more demanding FZG grey staining test (DIN 51354) is mastered by the TUNAP package with the rating “high grey staining capacity (10)” and a pitting area at the end of the test of 0%.

The demands of the FAG FE8 test for roller bearing lubricants (DIN 51819) are with a wear of the roller bearing <2 mg a wear of the cage <16 mg and a friction moment of 20 Nm “well fulfilled”

