



TECHNICAL REPORT ISO/TR 1281-2:2008
TECHNICAL CORRIGENDUM 1

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Rolling bearings — Explanatory notes on ISO 281 —

Part 2:

Modified rating life calculation, based on a systems approach to fatigue stresses

TECHNICAL CORRIGENDUM 1

Roulements — Notes explicatives sur l'ISO 281 —

Partie 2: Calcul modifié de la durée nominale de base fondé sur une approche système de la fatigue

RECTIFICATIF TECHNIQUE 1

Technical Corrigendum 1 to ISO/TR 1281-2:2008 was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 8, *Load ratings and life*.

Page 22, 5.6.5.3

In the first paragraph, replace “Reference [10] lists” with “References [10], [23] and [24] list”.

In the fourth paragraph, replace “The result of Reference [10] indicates” with “The results of References [10], [23] and [24] indicate”.

Pages 46 and 47, Bibliography

Replace the bibliography with the following:

Bibliography

- [1] ISO 76, *Rolling bearings — Static load ratings*
- [2] ISO/TR 1281-1, *Rolling bearings — Explanatory notes on ISO 281 — Part 1: Basic dynamic load rating and basic rating life*
- [3] ISO 4406:1999, *Hydraulic fluid power — Fluids — Method for coding the level of contamination by solid particles*
- [4] ISO 15243, *Rolling bearings — Damage and failures — Terms, characteristics and causes*
- [5] IOANNIDES, E., BERGLING, G., GABELLI, A. *An analytical formulation for the life of rolling bearings*. Finnish Academy of Technology. Helsinki, 1999, 77 pp. (*Acta Polytechnica Scandinavica, Mechanical Engineering Series*, Monograph 137.)
- [6] TALLIAN, T. Weibull distribution of rolling contact fatigue life and deviations therefrom. *ASLE Trans.*, 1962, **5**, pp. 183–196
- [7] SNARE, B. How reliable are bearings? *Ball Bearing J.*, 1970, **162**, pp. 3–5
- [8] TAKATA, H., SUZUKI, S., MAEDA, E. Experimental study of the life adjustment factor for reliability of rolling element bearings. In: *Proceedings of the JSLE International Tribology Conference*, 1985-07-08/10, Tokyo, Japan, pp. 603–608. Elsevier, New York, NY, 1986
- [9] IOANNIDES, E., KUIJPERS, J.C. Elastic stresses below asperities in lubricated contacts. *J. Tribol.*, 1986, **108**, pp. 394–402
- [10] SADA, T., MIKAMI, T. Effect of lubricant film thickness on ball bearing life under contaminated lubrication: Part 1 — Life tests for ball bearings in contaminated oil. *Jpn. J. Tribol.*, 2004, **49**, pp. 631–639
- [11] IMRAN, T. Effect of water contamination on the diffused content of hydrogen under stress in AISI-52100 bearing steel, Doctoral Thesis, Division of Machine Elements, Department of Mechanical Engineering, Lund Institute of Technology, 2005
- [12] BARNSBY, R., DUCHOWSKI, J., HARRIS, T., IOANNIDES, E., LOSCHE, T., NIXON, H., WEBSTER, M. *Life ratings for modern rolling bearings — A design guide for the application of International Standard ISO 281/2*. ASME, New York, NY, 90 pp. (*TRIB*, Vol. 14)
- [13] CZYZEWSKI, T. Influence of a tension stress field introduced in the elastohydrodynamic contact zone on rolling contact fatigue. *Wear*, 1975, **34**, pp. 201–214
- [14] IOANNIDES, E., JACOBSSON, B., TRIPP, J. Prediction of rolling bearing life under practical operating conditions. In: DOWSON, D. et al., eds. *Tribological design of machine elements: 15th Leeds-Lyon Symposium on Tribology*, pp. 181–187. Elsevier, Amsterdam, 1989
- [15] VOSKAMP, A.P. Material response to rolling contact loading. *J. Tribol.*, 1985, **107**, pp. 359–366
- [16] SAYLES, R.S., HAMER, J.C., IOANNIDES, E. The effects of particulate contamination in rolling bearings — A state of the art review. *Proc. Inst. Mech. Eng.*, 1990, **204**, pp. 29–36

- [17] DWYER-JOYCE, R.S., HAMER, J.C., SAYLES, R.S., IOANNIDES, E. Surface damage effects caused by debris in rolling bearing lubricants, with an emphasis on friable materials. In: *Rolling element bearings — Towards the 21st century*, pp. 1–8. Mechanical Engineering Publications, London, 1990
- [18] PALMGREN, A. *Grundlagen der Wälzlagertechnik* [Foundations of antifriction-bearing technology], 3rd ed. Franckh, Stuttgart, 1964, 264 pp.
- [19] DOWSON, D., HIGGINSON, G.R. Elastohydrodynamics. *Proc. Inst. Mech. Eng.*, 1967–1968, **182** (3A), pp. 151–167
- [20] HAMROCK, B.J., DOWSON, D. Isothermal elastohydrodynamic lubrication of point contacts — Part III — Fully flooded results. *J. Lubric. Technol.*, 1977, **99**, pp. 264–276
- [21] IOANNIDES, E., HARRIS, T.A. A new fatigue life model for rolling bearings. *J. Tribol.*, 1985, **107**, pp. 367–378
- [22] GABELLI, A., MORALES-ESPEJEL, G.E., IOANNIDES, E. Particle damage in Hertzian contacts and life ratings of rolling bearings. STLE Annual Meeting, Las Vegas, NV, 2005-05-15/19
- [23] SADA, T. and MIKAMI, T. Effect of lubricant film thickness on ball bearing life under contaminated lubrication: Part 2 — Relationship between film thickness and dent formation. *Jpn. J. Tribol.*, 2005, **50**, pp. 62–67
- [24] SADA, T., MIKAMI, T. Effect of lubricant film thickness on ball bearing life under contaminated lubrication: Part 3 — Reciprocal action of contamination and film thickness. *Jpn. J. Tribol.*, 2005, **50**, pp. 43–49
- [25] ISO 281:1990, *Rolling bearings — Dynamic load ratings and rating life*