



Technical Report

ISO/TR 25269

Rolling bearings — Calculation of theoretical reliability

Roulements — Calcul de la fiabilité théorique

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Foreword

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This document was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 8, *Load ratings and life*.

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Introduction

The fatigue lives of a population of rolling bearings are subject to a large statistical variation, that is usually described by a Weibull distribution.^[1] This Weibull distribution also is one fundamental concept in the statistical accumulation of failure probability used in the analysis of load ratings and rating life of rolling bearings per ISO 281 and ISO 16281, see ISO/TR 1281-1^[2].

However, since rolling contact fatigue life can be described both by a two-parameter as well as a three-parameter Weibull distribution, different methods have been proposed for the reliability analysis of rolling bearings.

This document describes a method for the calculation of the theoretical reliability of rolling bearings that is consistent with the provisions of both ISO 281 and ISO 16281, as well as VDMA 23904^[3] and IEC/TS 61400-4-1^[4].

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