

# Rolling bearings — Linear motion rolling bearings —

## Part 1: Dynamic load ratings and rating life

ICS 21.100.20

# National foreword

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The UK participation in its preparation was entrusted to Technical Committee MCE/7, Rolling bearings, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

## Cross-references

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## Summary of pages

This document comprises a front cover, an inside front cover, the ISO title page, pages ii to v, a blank page, pages 1 to 14, an inside back cover and a back cover.

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## Amendments issued since publication

| Amd. No. | Date | Comments |
|----------|------|----------|
|          |      |          |
|          |      |          |
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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 8 October 2004

© BSI 8 October 2004

ISBN 0 580 44549 6

# INTERNATIONAL STANDARD

**ISO**  
**14728-1**

First edition  
2004-06-01

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## Rolling bearings — Linear motion rolling bearings —

### Part 1: Dynamic load ratings and rating life

*Roulements — Roulements à mouvement linéaire —*

*Partie 1: Charges dynamiques de base et durée nominale*





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## **Foreword**

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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14728-1 was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 8, *Load ratings and life*.

ISO 14728 consists of the following parts, under the general title *Rolling bearings — Linear motion rolling bearings*:

- *Part 1: Dynamic load ratings and rating life*
- *Part 2: Static load ratings*

## Introduction

It is often impractical to establish the suitability of a linear motion rolling bearing selected for a specific application by testing. The following procedures have proved to be an appropriate and convenient substitute for testing:

- life calculation with dynamic load (ISO 14728-1);
- static load safety factor calculation with static load (ISO 14728-2).

The life of a linear motion bearing is given by the distance which one of the raceways moves, in relation to the other raceway, before the first evidence of fatigue develops in the material of one of the raceways or one of the rolling elements.

The formulae for calculating the basic dynamic load ratings are derived from the theory of Lundberg<sup>[1]</sup> and Palmgren<sup>[2]</sup>.

