



BSI Standards Publication

Fine ceramics (advanced ceramics, advanced technical ceramics) — Test method for rolling contact fatigue of silicon nitride ceramics at room temperature by balls-on-flat method

National foreword

This British Standard is the UK implementation of ISO 14628:2012.

The UK participation in its preparation was entrusted to Technical Committee RPI/13, Advanced technical ceramics.

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

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**Fine ceramics (advanced ceramics,
advanced technical ceramics) — Test
method for rolling contact fatigue
of silicon nitride ceramics at room
temperature by balls-on-flat method**

*Céramiques techniques — Méthode d'essai de fatigue de contact
de roulement des céramiques au nitrure de silicium à température
ambiante par la méthode des billes sur surface plane*





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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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 14628 was prepared by Technical Committee ISO/TC 206, *Fine ceramics*.

Introduction

Rolling contact fatigue (RCF) performance is essential for predicting the life of a rolling element. In general, RCF performance is evaluated from the life at a specific failure probability obtained by the Weibull analysis of test data under constant loading conditions. This International Standard specifies a fast and reliable method to compare RCF performance under stepwise loading as an alternative to accurate quantification by RCF tests under constant load. Ranking candidate materials, in other words comparison of performance among them, would be of value for choosing materials of required performance for bearings. In addition, material suppliers would receive feedback from the test results, allowing them to achieve a higher level of RCF performance.

