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Nanotechnologies — Guidance on methods for nano- and microtribology measurements

*Nanotechnologies — Directives relatives aux méthodes de mesure en
nano- et microtribologie*



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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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Introduction

Evaluation of wear and friction in systems where interactions occur in the nanoscale is becoming increasingly important. There are two main areas of application. The first is in MEMS and NEMS devices, where tribological issues can determine the overall performance of the device. It is also true that, in many cases, the tribological performance of macroscale contacts depends on the combination of what occurs at the micro- and nanoscale asperity contacts which actually take place when two surfaces come into contact.

The development of nanotribology testing provides a way of generating information and understanding these small-scale contacts. This understanding can then be used to model the performance of microscale devices and provide the basis for future models of sliding wear.