

# **SLOVENSKI STANDARD**

## **SIST-TP CEN ISO/TR 11811:2012**

**01-oktober-2012**

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**Nanotehnologija - Navodila za metode nano- in mikrottriboloških merenj (ISO/TR 11811:2012)**

Nanotechnologies - Guidance on methods for nano- and microtribology measurements (ISO/TR 11811:2012)

Nanotechnologien - Leitfaden für nano- und mikrottribologische Messverfahren (ISO/TR 11811:2012)

Nanotechnologies - Directives relatives aux méthodes de mesure en nano- et microtribologie (ISO/TR 11811:2012)

**Ta slovenski standard je istoveten z: CEN ISO/TR 11811:2012**

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**ICS:**

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Nanotehnologije

Nanotechnologies

**SIST-TP CEN ISO/TR 11811:2012**

**en,fr**

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RAPPORT TECHNIQUE  
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**Nanotechnologies - Guidance on methods for nano- and  
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This Technical Report was approved by CEN on 9 August 2010. It has been drawn up by the Technical Committee CEN/TC 352.

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## Foreword

This document (CEN ISO/TR 11811:2012) has been prepared by Technical Committee CEN/TC 352 "Nanotechnologies", the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 229 "Nanotechnologies".

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**ISO/TR  
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First edition  
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

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/TR 11811 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 352, *Nanotechnologies*, in collaboration with ISO Technical Committee ISO/TC 229, *Nanotechnologies*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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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.

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