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Statistical methods in process management — Capability and performance —

Part 3: Machine performance studies for measured data on discrete parts

*Méthodes statistiques dans la gestion de processus — Aptitude et
performance —*

*Partie 3: Études de performance de machines pour des données
mesurées sur des parties discrètes*



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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 69, *Applications of statistical methods*, Subcommittee SC 4, *Applications of statistical methods in product and process management*.

This second edition cancels and replaces the first edition (ISO 22514-3:2008), which has been technically revised.

The main changes compared to the previous edition are as follows:

- updated and improved figures and computer outputs.

A list of all parts in the ISO 22514 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document has been prepared to provide guidance in circumstances where a study is necessary to determine if the output from a machine, for example, is acceptable according to some criteria. Such circumstances are common in engineering when the purpose for the study is part of an acceptance trial. These studies can also be used when diagnosis is required concerning a machine's current level of performance or as part of a problem-solving effort. The method is very versatile and has been applied to many situations.

Machine performance studies of this type provide information about the behaviour of a machine under very restricted conditions such as limiting, as far as possible, external sources of variation that are commonplace within a process, e.g. multi-factor and multi-level situations. The data gathered in a study might come from items made consecutively, although this may be altered according to the study requirements. The data are assumed to have been, generally, gathered manually.

The study procedure and reporting are of interest to engineers, supervisors and management wishing to establish whether a machine should be purchased or put in for maintenance, to assist in problem-solving or to understand the level of variation due to the machine itself.