



ISO 11462-1

Implementation of statistical process control (SPC) —

Part 1: Statistical process management — Elements, tools and techniques of SPC

Mise en oeuvre de la maîtrise statistique des processus (MSP) —

*Partie 1: Gestion statistique des processus (MSP) — Éléments,
outils et techniques de MSP*

Second edition
2026-08

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Published in Switzerland

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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 editions of ISO 11462-1:2001 and ISO 11462-2:2010, which have been technically revised.

The main changes are as follows:

- The previous editions presented the “Elements of SPC” (ISO 11462-1:2001) and a “Catalog of tools and techniques” (ISO 11462-2:2010). The new revision combines both and integrates the elements, tools and techniques with a description of the processes and control loops for implementing SPC.

This revision of the standard has therefore been restructured and should now be understood as an overarching framework for the ISO 7870 and ISO 22514 series of standards. It describes and combines the application of the individual parts of these series of standards in control loops and process operations.

A list of all parts in the ISO 11462 series can be found on the ISO website.

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The ISO 11462 series provides guidelines for the implementation of a statistical process control (SPC) system. These guidelines are aimed primarily at increasing production efficiency and inherent capability and reducing sampling interval and cost.

This document provides guidance on the implementation of a statistical process control (SPC) system and an overview of tools and techniques to assist an organisation in planning, implementing and evaluating an effective statistical process control (SPC) system. These tools and techniques are essential for the successful implementation of the SPC elements specified in this document.

By implementing those elements deemed applicable and appropriate by customer and supplier, an organisation may satisfy a requirement to adopt a comprehensive and effective SPC system. By also deploying a quality system with the aim of ensuring that products and services meet customer requirements (such as the system defined by ISO 9001), an organisation can improve the infrastructure so as to help hold the gains from its SPC system.

The common economic objective of statistical process control is to increase good process outputs produced for a given amount of resource inputs.

This document follows the definition of process control according to ISO 3534-2 in the sense of the definitions of statistical process control as well as the activities focused on reducing dispersion, improving knowledge about the process and controlling the process in the desired way by means of statistical methods, and extends the definition in the sense of statistical process management by further necessary preparatory activities which are prerequisites of statistical process control.

This document also extends the definition and usage of the term parameter to apply to a process parameter or a product parameter; and to recognize that a product parameter can be either an in-process product parameter or a final-product parameter. Under specified conditions of measurement, a product parameter can be equivalent to a product characteristic.

Some considerations given in the formulations of ISO 11462 series are the following:

- a) Elements of this document give guidance to an organisation in how to implement an SPC system. Specific tools and techniques that experience has shown useful in applying these elements within processes will be listed in this document.
- b) Users of ISO 11462 series should be aware that the use of “should” throughout both parts of ISO 11462 indicates that
 - 1) among several possibilities, one or more are recommended as being particularly suitable and effective, without mentioning or excluding others;
 - 2) a certain course of action is preferred but not necessarily required for a process in order to gain the economic control of production.

This choice of language does not indicate requirements which are to be strictly followed in order to conform to this document and from which no deviation is permitted.