

ISO 22514-3:2020 (E)

Statistical methods in process management — Capability and performance — Part 3: Machine performance studies for measured data on discrete parts

Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Symbols
5	Pre-conditions for application
5.1	General
5.2	Number of parts to be used in the study
5.3	Materials to be used
5.4	Measurement system
5.5	Running the study
5.6	Special circumstances
6	Data collection
6.1	Traceability of data
6.2	Retention of specimens
6.3	Data recording
7	Analysis
7.1	General
7.2	Run chart
7.2.1	Purpose
7.2.2	Review the plot
7.3	Analyse the pattern of the data
7.3.1	Software approach
7.3.2	Check the pattern of the data
7.3.3	Summarize the data
7.3.4	Manual approach
7.4	Produce a probability plot
7.4.1	General
7.4.2	Analyse the data
7.5	Special cases
7.5.1	Data indicate a skewed distribution
7.5.2	Bimodal data
7.5.3	Truncated data
7.5.4	Censored data
7.6	Calculation of machine performance indices
7.6.1	General procedure
7.6.1.1	General
7.6.1.2	Estimation of Pm index
7.6.1.3	Estimation of Pmk index
7.6.2	Data following a normal distribution
7.6.2.1	Estimation of Pm index
7.6.2.2	Estimation of Pmk index
7.6.2.3	Estimation of proportion out of specification

- 8 Reporting**
 - 8.1 Test report**
 - 8.2 Confidence intervals**
 - 8.2.1 General**
 - 8.2.2 Indices calculated with the data following a normal distribution**
 - 8.2.3 Indices calculated with data following a non-normal distribution**
- 9 Actions following a machine performance study**
- Annex A (informative) Tables and worksheets**

Page count: 19