ISO 3951-1:2022-08 (E)

Sampling procedures for inspection by variables - Part 1: Specification for single sampling plans indexed by acceptance quality limit (AQL) for lot-by-lot inspection for a single quality characteristic and a single AQL

Contents

Page

Foreword v

Introduction vi

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Symbols 6

5 Choice of a sampling plan 7
5.1 Choice between variables and attributes 7
5.2 General 8
5.3 Choice between the s-method and -method 8
5.4 Choice of inspection level and AQL 9

6 Standard procedures for the s-method 10
6.1 General 10
6.2 Single specification limits 10
6.3 Double specification limits 11

7 Standard procedures for the -method 11
7.1 General 11
7.2 Single specification limits 11
7.3 Double specification limits 12

8 The p*-method 12

9 Switching between inspection severities 13
9.1 Rules for switching between inspection severities 14
9.2 Records for switching between inspection severities 15

10 Relation to ISO 2859-1 15
10.1 Similarities 15
10.2 Differences 16

11 Allowing for measurement uncertainty 17

12 Normality, data transformations and outliers 17
12.1 Normality 17
12.2 Data transformations 17
12.3 Outliers 18

13 Monitoring and recording of inspection results 18
13.1 Monitoring of inspection results 18
13.2 Process capability and performance assessment 18
13.3 Monitoring of process parameters 18

14 Tables 19
14.1 Form k for single sampling plans: s-method 19
14.2 Form k for single sampling plans: -method 26
14.3 Form p* single sampling plans 33
14.4 Values of f for maximum process standard deviation (MPSD) 40
14.5 Supplementary acceptance constants for qualifying towards reduced inspection 40

15 Examples 41
15.1 General 41
15.2 Examples for the s-method 41
15.3 Examples for the -method 48
15.4 Examples for the p*-method 52

Annex A (informative) Procedures for obtaining s and 55

Annex B (informative) Accommodating measurement variability 58

Annex C (informative) Sampling strategies 63

Annex D (informative) Operating characteristics for the -method 65

Annex E (informative) Operating characteristic for the s-method - tabulated values for single sampling plans, normal inspection 66

Annex F (informative) Consumer's risk qualities 75

Annex G (informative) Producer's risks 82

Annex H (informative) Construction of acceptance diagrams for double specification limits 90

Annex I (informative) Use of the underlying software 101

Bibliography 106