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Sri Lanka Standard

SAMPLING PROCEDURE AND TABLES FOR INSPECTION BY ATTRIBUTES

Gr. V

SRI LANKA STANDARDS INSTITUTION

SRI LANKA STANDARDSAMPLING PROCEDURE AND TABLES FOR INSPECTION BY ATTRIBUTESNational Foreword

This Sri Lanka standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1977-06-22. This is an adoption of ISO 2859.

With greater recognition of the importance of statistical techniques in quality control work, it has become necessary to introduce more and more statistical techniques in quality control work and also to facilitate the application of the techniques which are already in use.

Sampling is of fundamental importance for estimating the quality of a lot for ascertaining its conformity to the requirements of a specification. This standard has been prepared to fulfil the long-felt need of the producers and consumers for a collection of sampling inspection tables which could be readily referred by them for selecting their sampling plans for ascertaining quality of a lot.

The text of the international standard has been accepted as suitable for publication without deviation as a Sri Lanka Standard. Certain terminology and conventions are not identical with those used in Sri Lanka Standards. Attention is therefore drawn to the following.

Wherever the words "International Standards" appears referring to this standard they should be interpreted as "Sri Lanka Standard".

The comma has been used throughout as a decimal marker. In Sri Lanka Standards, it is the current practice to use a full point on the base line as the decimal marker.

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# Sampling procedures and tables for inspection by attributes

## 1 SCOPE AND FIELD OF APPLICATION

### 1.1 Purpose

This International Standard specifies sampling plans and procedures for inspection by attributes. When specified by the responsible authority, this International Standard shall be "referenced" in the specification, contract, inspection instructions, or other documents, and the provisions set forth herein shall govern. The "responsible authority" shall be designated in one of the above documents.

### 1.2 Field of application

Sampling plans designated in this publication are applicable, but not limited, to inspection of the following :

- a) end items;
- b) components and raw materials;
- c) operations;
- d) materials in process;
- e) supplies in storage;
- f) maintenance operations;
- g) data or records;
- h) administrative procedures.

These plans are intended primarily to be used for a continuing series of lots or batches. The plans may also be used for the inspection of isolated lots or batches, but, in this latter case, the user is cautioned to consult the operating characteristic curves to find a plan which will yield the desired protection (see 11.6).

### 1.3 Inspection

Inspection is the process of measuring, examining, testing, or otherwise comparing the unit of product (see 1.5) with the requirements.

### 1.4 Inspection by attributes

Inspection by attributes is inspection whereby either the unit of product is classified simply as defective or non-defective, or the number of defects in the unit of product is counted, with respect to a given requirement or set of requirements.

### 1.5 Unit of product

The unit of product is the thing inspected in order to determine its classification as defective or non-defective or to count the number of defects. It may be a single article, a pair, a set, a length, an area, an operation, a volume, a component of an end product, or the end product itself. The unit of product may or may not be the same as the unit of purchase, supply, production, or shipment.

## 2 CLASSIFICATION OF DEFECTS AND DEFECTIVES

### 2.1 Method of classifying defects

A classification of defects is the enumeration of possible defects of the unit of product classified according to their seriousness. A defect is any non-conformance of the unit of product to specified requirements. Defects will normally be grouped into one or more of the following classes; however, defects may be grouped into other classes, or into sub-classes within these classes.

#### 2.1.1 Critical defect

A critical defect is a defect that judgment and experience indicate is likely to result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the product; or a defect that judgment and experience indicate is likely to prevent performance of the tactical function of a major end item such as a ship, aircraft, computer, medical equipment or telecommunication satellite.

NOTE – For a special provision relating to critical defects, see 6.3.

#### 2.1.2 Major defect

A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

#### 2.1.3 Minor defect

A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

## 2.2 Method of classifying defectives

A defective is a unit of product which contains one or more defects. Defectives will usually be classified as follows :

### 2.2.1 Critical defective

A critical defective contains one or more critical defects and may also contain major and/or minor defects.

NOTE — For a special provision relating to critical defectives, see 6.3.

### 2.2.2 Major defective

A major defective contains one or more major defects, and may also contain minor defects but contains no critical defects.

### 2.2.3 Minor defective

A minor defective contains one or more minor defects but contains no critical or major defect.

## 3 PERCENT DEFECTIVE AND DEFECTS PER HUNDRED UNITS

### 3.1 Expression of non-conformance

The extent of non-conformance of product shall be expressed either in terms of percent defective or in terms of defects per hundred units.

### 3.2 Percent defective

The percent defective of any given quantity of units of product is one hundred times the number of defective units of product contained therein divided by the total number of units of product, i.e. :

$$\text{Percent defective} = \frac{\text{Number of defectives}}{\text{Number of units inspected}} \times 100$$

### 3.3 Defects per hundred units

The number of defects per hundred units of any given quantity of units of product is one hundred times the number of defects contained therein (one or more defects being possible in any unit of product) divided by the total number of units of product, i.e. :

Defects per hundred units =

$$\frac{\text{Number of defects}}{\text{Number of units inspected}} \times 100$$

## 4 ACCEPTABLE QUALITY LEVEL (AQL)

### 4.1 Use

The AQL, together with the sample size code letter, is used for indexing the sampling plans provided herein.

## 4.2 Definition

The AQL is the maximum percent defective (or the maximum number of defects per hundred units) that, for purposes of sampling inspection, can be considered satisfactory as a process average (see 11.2).

### 4.3 Note on the meaning of AQL

When a consumer designates some specific value of AQL for a certain defect or group of defects, he indicates to the supplier that his (the consumer's) acceptance sampling plan will accept the great majority of the lots or batches that the supplier submits, provided the process average level of percent defective (or defects per hundred units) in these lots or batches be no greater than the designated value of AQL. Thus, the AQL is a designated value of percent defective (or defects per hundred units) that the consumer indicates will be accepted most of the time by the acceptance sampling procedure to be used. The sampling plans provided herein are so arranged that the probability of acceptance at the designated AQL value depends upon the sample size, being generally higher for large samples than for small ones, for a given AQL. The AQL alone does not describe the protection to the consumer for individual lots or batches but more directly related to what might be expected from a series of lots or batches, provided the steps indicated in this International Standard are taken. It is necessary to refer to the operating characteristic curve of the plan, to determine what protection the consumer will have.

### 4.4 Limitation

The designation of an AQL shall not imply that the supplier has the right to supply knowingly any defective unit of product.

### 4.5 Specifying AQLs

The AQL to be used will be designated in the contract or by the responsible authority. Different AQLs may be designated for groups of defects considered collectively, or for individual defects. An AQL for a group of defects may be designated in addition to AQLs for individual defects, or sub-groups, within that group. AQL values of 10,0 or less may be expressed either in percent defective or in defects per hundred units; those over 10,0 shall be expressed in defects per hundred units only.

### 4.6 Preferred AQLs

The values of AQLs given in these tables are known as preferred AQLs. If, for any product, an AQL be designated other than a preferred AQL, these tables are not applicable.

## 5 SUBMISSION OF PRODUCT

### 5.1 Lot or batch

The term lot or batch shall mean "inspection lot" or "inspection batch", i.e., a collection of units of product from which a sample is to be drawn and inspected to

determine conformance with the acceptability criteria, and may differ from a collection of units designated as a lot or batch for other purposes (e.g. production, shipment, etc.).

## 5.2 Formation of lots or batches

The product shall be assembled into identifiable lots, sub-lots, batches, or in such other manner as may be prescribed (see 5.4). Each lot or batch shall, as far as is practicable, consist of units of product of a single type, grade, class, size, and composition, manufactured under essentially the same conditions, and at essentially the same time.

## 5.3 Lot or batch size

The lot or batch size is the number of units of product in a lot or batch.

## 5.4 Presentation of lots or batches

The formation of the lots or batches, lot or batch size, and the manner in which each lot or batch is to be presented and identified by the supplier shall be designated or approved by the responsible authority. As necessary, the supplier shall provide adequate and suitable storage space for each lot or batch, equipment needed for proper identification and presentation, and personnel for all handling of product required for drawing of samples.

## 6 ACCEPTANCE AND REJECTION

### 6.1 Acceptability of lots or batches

Acceptability of a lot or batch will be determined by the use of a sampling plan or plans associated with the designated AQL or AQLs.

### 6.2 Defective units

The right is reserved to reject any unit of product found defective during inspection whether that unit of product forms part of a sample or not, and whether the lot or batch as a whole is accepted or rejected. Rejected units may be repaired or corrected and resubmitted for inspection with the approval of, and in the manner specified by, the responsible authority.

### 6.3 Special reservation for critical defects

The supplier may be required at the discretion of the responsible authority to inspect every unit of the lot or batch for critical defects. The right is reserved to inspect every unit submitted by the supplier for critical defects, and to reject the lot or batch immediately, when a critical defect is found. The right is reserved also to sample, for critical defects, every lot or batch submitted by the supplier and to reject any lot or batch if a sample drawn therefrom is found to contain one or more critical defects.

## 6.4 Resubmitted lots or batches

Lots or batches found unacceptable shall be resubmitted for reinspection only after all units are re-examined or retested and all defective units are removed or defects corrected. The responsible authority shall determine whether normal or tightened inspection shall be used, and whether reinspection shall include all types or classes of defects or only the particular types or classes of defects which caused initial rejection.

## 7 DRAWING OF SAMPLES

### 7.1 Sample

A sample consists of one or more units of product drawn from a lot or batch, the units of the sample being selected at random without regard to their quality. The number of units of product in the sample is the sample size.

### 7.2 Representative sampling

When appropriate, the number of units in the sample shall be selected in proportion to the size of sub-lots or sub-batches, or parts of the lot or batch, identified by some rational criterion. When representative sampling is used, the units from each part of the lot or batch shall be selected at random.

### 7.3 Time of sampling

Samples may be drawn after all the units comprising the lot or batch have been assembled, or samples may be drawn during assembly of the lot or batch.

### 7.4 Double or multiple sampling

When double or multiple sampling is to be used, each sample shall be selected over the entire lot or batch.

## 8 NORMAL, TIGHTENED AND REDUCED INSPECTION

### 8.1 Initiation of inspection

Normal inspection will be used at the start of inspection unless otherwise directed by the responsible authority.

### 8.2 Continuation of inspection

Normal, tightened or reduced inspection shall continue unchanged for each class of defects or defectives on successive lots or batches except where the switching procedures given below require a change. The switching procedures shall be applied to each class of defects or defectives independently.

### 8.3 Switching procedures

#### 8.3.1 Normal to tightened

When normal inspection is in effect, tightened inspection shall be instituted when 2 out of 5 consecutive lots or batches have been rejected on original inspection (i.e. ignoring resubmitted lots or batches for this procedure).

### 8.3.2 *Tightened to normal*

When tightened inspection is in effect, normal inspection shall be instituted when 5 consecutive lots or batches have been considered acceptable on original inspection.

### 8.3.3 *Normal to reduced*

When normal inspection is in effect, reduced inspection may be instituted providing that all of the following conditions are satisfied :

- a) The preceding 10 lots or batches (or more, as indicated by the note to table VIII) have been on normal inspection and none has been rejected on original inspection.
- b) The total number of defectives (or defects) in the samples from the preceding 10 lots or batches (or such other number as was used for condition (a) above) is equal to or less than the applicable number given in table VIII. If double or multiple sampling is in use, all samples inspected should be included, not "first" samples only.
- c) Production is at a steady rate.
- d) Reduced inspection is considered desirable by the responsible authority.

### 8.3.4 *Reduced to normal*

When reduced inspection is in effect, normal inspection shall be instituted if any of the following occur on original inspection :

- a) A lot or batch is rejected.
- b) A lot or batch is considered acceptable under the procedures of 10.1.4.
- c) Production becomes irregular or delayed.
- d) Other conditions warrant that normal inspection shall be instituted.

## 8.4 Discontinuation of inspection

In the event that 10 consecutive lots or batches remain on tightened inspection (or such other number as may be designated by the responsible authority), inspection under the provisions of this document should be discontinued pending action to improve the quality of submitted material.

# 9 SAMPLING PLANS

## 9.1 Sampling plan

A sampling plan indicates the number of units of product from each lot or batch which are to be inspected (sample size or series of sample sizes) and the criteria for determining the acceptability of the lot or batch (acceptance and rejection numbers).

## 9.2 Inspection level

The inspection level determines the relationship between the lot or batch size and the sample size. The inspection level to be used for any particular requirement will be prescribed by the responsible authority. Three inspection levels : I, II and III, are given in table I for general use. Unless otherwise specified, Inspection Level II will be used. However, Inspection Level I may be specified when less discrimination is needed, or Level III may be specified for greater discrimination. Four additional special levels : S-1, S-2, S-3 and S-4, are given in the same table and may be used where relatively small sample sizes are necessary and large sampling risks can or must be tolerated.

NOTE – In the designation of inspection levels S-1 to S-4, it is essential that care is exercised to avoid AQLs inconsistent with these inspection levels.

## 9.3 Code letters

Sample sizes are designated by code letters. Table I shall be used to find the applicable code letter for the particular lot or batch size and the prescribed inspection level.

## 9.4 Obtaining sampling plan

The AQL and the code letter shall be used to obtain the sampling plan from tables II, III or IV. When no sampling plan is available for a given combination of AQL and code letter, the tables direct the user to a different letter. The sample size to be used is given by the new code letter, not by the original letter. If this procedure leads to different sample sizes for different classes of defects, the code letter corresponding to the largest sample size derived may be used for all classes of defects when designated or approved by the responsible authority. As an alternative to a single sampling plan with an acceptance number of 0, the plan with an acceptance number of 1, with its correspondingly larger sample size for a designated AQL (where available), may be used when designated or approved by the responsible authority.

## 9.5 Types of sampling plan

Three types of sampling plan : single, double and multiple, are given in tables II, III and IV respectively. When several types of plan are available for a given AQL and code letter, any one may be used. A decision as to the type of plan, either single, double, or multiple, when available for a given AQL and code letter, will usually be based upon the comparison between the administrative difficulty and the average sample sizes of the available plans. The average sample size of multiple plans is less than for double (except in the case corresponding to single acceptance number 1) and both of these are always less than a single sample size. Usually the administrative difficulty for single sampling and the cost per unit of the sample are less than for double or multiple.

## 10 DETERMINATION OF ACCEPTABILITY

### 10.1 Percent defective inspection

To determine acceptability of a lot or batch under percent defective inspection, the applicable sampling plan shall be used in accordance with 10.1.1, 10.1.2, 10.1.3 and 10.1.4.

#### 10.1.1 Single sampling plan

The number of sample units inspected shall be equal to the sample size given by the plan. If the number of defectives found in the sample is equal to or less than the acceptance number, the lot or batch shall be considered acceptable. If the number of defectives is equal to or greater than the rejection number, the lot or batch shall be rejected.

#### 10.1.2 Double sampling plan

The number of sample units inspected shall be equal to the first sample size given by the plan. If the number of defectives found in the first sample is equal to or less than the first acceptance number, the lot or batch shall be considered acceptable.

If the number of defectives found in the first sample is equal to or greater than the first rejection number, the lot or batch shall be rejected. If the number of defectives found in the first sample is between the first acceptance and rejection numbers, a second sample of the size given by the plan shall be inspected. The number of defectives found in the first and second samples shall be accumulated. If the cumulative number of defectives is equal to or less than the second acceptance number, the lot or batch shall be considered acceptable. If the cumulative number of defectives is equal to or greater than the second rejection number, the lot or batch shall be rejected.

#### 10.1.3 Multiple sampling plan

Under multiple sampling, the procedure shall be similar to that specified in 10.1.2, except that the number of successive samples required to reach a decision may be more than two.

#### 10.1.4 Special procedure for reduced inspection

Under reduced inspection, the sampling procedure may terminate without either acceptance or rejection criteria having been met. In these circumstances, the lot or batch will be considered acceptable, but normal inspection will be reinstated starting with the next lot or batch (see 8.3.4 (b)).

## 10.2 Defects per hundred units inspection

To determine the acceptability of a lot or batch under defects per hundred units inspection, the procedure specified for percent defective inspection above shall be used, except that the word "defects" shall be substituted for "defectives".

## 11 SUPPLEMENTARY INFORMATION

### 11.1 Operating characteristic curves

The operating characteristic curves for normal inspection, shown in table X, indicate the percentage of lots or batches which may be expected to be accepted under the various sampling plans for a given process quality. The curves shown are for single sampling; curves for double and multiple sampling are matched as closely as practicable. The O.C. curves shown for AQLs greater than 10,0 are based on the Poisson distribution and are applicable for defects per hundred units inspection; those for AQLs of 10,0 or less and sample sizes of 80 or less are based on the binomial distribution and are applicable for percent defective inspection; those for AQLs of 10,0 or less and sample sizes larger than 80 are based on the Poisson distribution and are applicable either for defects per hundred units inspection, or for percent defective inspection (the Poisson distribution being an adequate approximation to the binomial distribution under these conditions).

Tabulated values, corresponding to selected values of probabilities of acceptance ( $P_a$ , in percent) are given for each of the curves shown, and, in addition, for tightened inspection, and for defects per hundred units for AQLs of 10,0 or less and sample sizes of 80 or less.

### 11.2 Process average

The process average is the average percent defective or average number of defects per hundred units (whichever is applicable) of product submitted by the supplier for original inspection. Original inspection is the first inspection of a particular quantity of product as distinguished from the inspection of product which has been resubmitted after prior rejection.

### 11.3 Average outgoing quality (AOQ)

The AOQ is the average quality of outgoing product including all accepted lots or batches, plus all rejected lots or batches after the rejected lots or batches have been effectively 100 % inspected and all defectives replaced by non-defectives.

### 11.4 Average outgoing quality limit (AOQL)

The AOQL is the maximum of the AOQs for all possible incoming qualities for a given acceptance sampling plan. AOQL values are given in table V-A for each of the single sampling plans for normal inspection and in table V-B for each of the single sampling plans for tightened inspection.

### 11.5 Average sample size curves

Average sample size curves for double and multiple sampling are in table IX. These show the average sample sizes which may be expected to occur under the various sampling plans for a given process quality. The curves assume no curtailment of inspection and are approximate to the extent that they are based upon the Poisson

distribution, and that the sample sizes for double and multiple sampling are assumed to be  $0,63 n$  and  $0,25 n$  respectively, where  $n$  is the equivalent single sample size.

### 11.6 Limiting quality protection

The sampling plans and associated procedures given in this specification were designed for use where the units of product are produced in a continuing series of lots or batches over a period of time. However, if the lot or batch is of an isolated nature, it is desirable to limit the selection of sampling plans to those, associated with a designated AQL value, that provide not less than a specified limiting

quality protection. Sampling plans for this purpose can be selected by choosing a limiting quality (LQ) and a consumer's risk to be associated with it. Tables VI and VII give values of LQ for the commonly used consumer's risks of 10 % and 5 % respectively. If a different value of consumer's risk is required, the O.C. curves and their tabulated values may be used.

The concept of LQ may also be useful in specifying the AQL and inspection levels for a series of lots or batches, thus fixing a minimum sample size where there is some reason for avoiding (with more than a given consumer's risk) more than a limiting proportion of defectives (or defects) in any single lot or batch.

TABLE I – Sample size code letters (See 9.2 and 9.3)

Lot or batch size	Special inspection levels				General inspection levels					
	S-1	S-2	S-3	S-4	I	II	III	IV	V	VI
2	to 8	A	A	A	A	A	A	B	C	D
9	to 15	A	A	A	A	A	B	B	C	D
16	to 25	A	A	B	B	C	C	C	D	E
26	to 50	A	B	B	C	C	D	E	F	G
51	to 90	B	B	C	C	D	D	E	F	G
91	to 150	B	B	C	E	E	E	F	G	H
151	to 280	B	C	D	D	E	E	F	G	I
281	to 500	B	C	D	E	E	F	G	H	J
501	to 1200	C	C	E	F	F	G	H	J	K
1201	to 3200	C	D	D	E	F	G	H	K	L
3201	to 10000	C	D	D	F	F	G	H	L	M
10001	to 35000	C	D	D	E	B	G	J	M	N
35001	to 150000	D	D	E	G	B	H	J	N	P
150001	to 500000	D	D	E	E	B	H	K	P	Q
500001 and over	and over	D	D	E	E	E	H	K	Q	R

CODE  
LETTERS

TABLE II-A — Single sampling plans for normal inspection (Master table) (See 9.4 and 9.5)

		Acceptable Quality Levels (normal inspection)																										
Sample size code letter	Sample size	0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000	
		Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	
A	2																											
B	3																											
C	5																											
D	8																											
E	13																											
F	20																											
G	32																											
H	50																											
J	80																											
K	125																											
L	200																											
M	315																											
N	500																											
P	800																											
Q	1250	0	1																									
R	2000																											

= Go down in this column till a block with acceptance-rejection numbers (Ac Re) is reached. Then use these numbers and the sample size on the same line to the left of this block. If the sample size equals or exceeds the lot or batch size, do 100 percent inspection.

= Go up in this column till a block with acceptance-rejection numbers (Ac Re) is reached. Then use these numbers and the sample size on the same line to the left of this block.

Ac = Acceptance number.

Re = Rejection number.

**SINGLE  
NORMAL**

TABLE II-B – Single sampling plans for tightened inspection (Master table) (See 9.4 and 9.5)

Sample size code letter	Sample size	Acceptable Quality Levels (tightened inspection)																										
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000	
Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	
A	2																											
B	3																											
C	5																											
D	8																											
E	13																											
F	20																											
G	32																											
H	50																											
I	80																											
K	125																											
L	200																											
M	315																											
N	500																											
P	800																											
Q	1250																											
R	2000	0	1																									
S	3150																											

= Go down in this column till a block with acceptance-rejection numbers (Ac Re) is reached. Then use these numbers and the sample size on the same line to the left of this block. If the sample size equals or exceeds the lot or batch size, do 100 percent inspection.

= Go up in this column till a block with acceptance-rejection numbers (Ac Re) is reached. Then use these numbers and the sample size on the same line to the left of this block.

Ac = Acceptance number.  
Re = Rejection number.

**SINGLE  
TIGHTENED**

TABLE II-C – Single sampling plans for reduced inspection (Master table) (See 9.4 and 9.5)

Sample size code letter	Sample size	Acceptable Quality Levels (reduced inspection) <sup>†</sup>																			
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65
Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
A	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
B	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
C	2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
D	3	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
E	5	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
F	8	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
G	13	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
H	20	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
J	32	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
K	50	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
L	80	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
M	125	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
N	200	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
P	315	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
Q	500	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
R	800	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1

= Go down in this column till a block with acceptance-rejection numbers (Ac Re) is reached. Then use these numbers and the sample size on the same line to the left of this block. If the sample size equals or exceeds the lot or batch size, do 100 percent inspection.

= Go up in this column till a block with acceptance-rejection numbers (Ac Re) is reached. Then use these numbers and the sample size on the same line to the left of this block.

Ac = Acceptance number.

Re = Rejection number.

† = If the acceptance number has been exceeded, but the rejection number has not been reached, accept the lot, but reinstate normal inspection (see 10.1.4).

**SINGLE  
REDUCED**

TABLE III-A — Double sampling plans for normal inspection (Master table) (See 9.4 and 9.5)

				Acceptable Quality Level's (normal inspection)																										
Sample size	Sample code letter	Sample size	Cumulative sample size	0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000	
		Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	
A																														
B	First	2	2																											
	Second	2	4																											
C	First	3	3																											
	Second	3	6																											
D	First	5	5																											
	Second	5	10																											
E	First	8	8																											
	Second	8	16																											
F	First	13	13																											
	Second	13	26																											
G	First	20	20																											
	Second	20	40																											
H	First	32	32																											
	Second	32	64																											
I	First	50	50																											
	Second	50	100																											
K	First	80	80																											
	Second	80	160																											
L	First	125	125																											
	Second	125	250																											
M	First	200	200																											
	Second	200	400																											
N	First	315	315																											
	Second	315	630																											
P	First	500	500																											
	Second	500	1000																											
Q	First	800	800	*																										
	Second	800	1600																											
R	First	1250	1250																											
	Second	1250	2500																											

= Go down in this column till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If an asterisk (\*) is reached, follow instructions in the foot-note. If the sample size equals or exceeds the lot or batch size, do 100 percent inspection.

= Go up in this column till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case use these numbers and the sample size on the same line to the left of this block (not the original sample size). If an asterisk (\*) is reached, follow the instructions in the foot-note.

Ac = Acceptance number.  
Re = Rejection number.

\* = Use the corresponding single sampling plan (code letter and AQL for this block) (or, alternatively, use the double sampling plan below, where available).

**DOUBLE  
NORMAL**

TABLE III-B – Double sampling plans for tightened inspection (Master table) (See 9.4 and 9.5)

Sample size code letter	Sample size	Cumulative sample size	Acceptable Quality Levels (tightened inspection)																								
			0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650
A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B	First	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C	First	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	3	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	First	5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	5	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E	First	8	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	8	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F	First	13	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	13	26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
G	First	20	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	20	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	First	32	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	32	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I	First	50	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	50	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
K	First	80	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	80	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
L	First	125	125	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	125	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
M	First	200	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	200	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	First	315	315	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	315	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
P	First	500	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	500	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q	First	800	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	800	1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R	First	1250	1250	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	1250	2500	*	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	First	2000	2000	0	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Second	2000	4000	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

= Go down in this column till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If an asterisk (\*) is reached, follow instructions in the foot-note. If the sample size equals or exceeds the lot or batch size, do 100 percent inspection.

= Go down in this column till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case use these numbers and the sample size on the same line to the left of this block (not the original sample size). If an asterisk (\*) is reached, follow the instructions in the foot-note.

Ac = Acceptance number.

Re = Rejection number.

\* = Use the corresponding single sampling plan (code letter and AQL for this block) (or, alternatively, use the double sampling plan below, where available).

TABLE III-C – Double sampling plans for reduced inspection (Master table) (See 9.4 and 9.5)

Sample size, letter	Sample size	Cumulative sample size	Acceptable Quality Levels (reduced inspection)																										
			0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.3	10	15	25	40	65	100	150	250	400	650	1000	
Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re		
A																													
B																													
C																													
D	First	2	2																										
	Second	2	4																										
E	First	3	3																										
	Second	3	6																										
F	First	5	5																										
	Second	5	10																										
G	First	8	8																										
	Second	8	16																										
H	First	13	13																										
	Second	13	26																										
J	First	20	20																										
	Second	20	40																										
K	First	32	32																										
	Second	32	64																										
L	First	50	50																										
	Second	50	100																										
M	First	80	80																										
	Second	80	160																										
N	First	125	125																										
	Second	125	250																										
P	First	200	200																										
	Second	200	400																										
Q	First	315	315	*																									
	Second	315	630	*																									
R	First	500	500																										
	Second	500	1000																										

= Go down in this column till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If an asterisk (\*) is reached, follow instructions in the foot-note. If the sample size equals or exceeds the lot or batch size, do 100 percent inspection.

↓ = Acceptance number.

↑ = Rejection number.

\* = Use the corresponding single sampling plan (code letter and AQL for this block) (or, alternatively, use the double sampling plan below, where available).

† = If, after the second sample, the acceptance number has been exceeded, but the rejection number (\* ) is reached, follow the instructions in the foot-note.

**DOUBLE  
REDUCED**

TABLE IV-A – Multiple sampling plans for normal inspection (Master table) (See 9.4 and 9.5)

		Acceptable Quality Levels (normal inspection)																											
Sample size code letter	Sample size	Cumulative sample size	0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000	
			Ac Re																										
A	B	C																											
D	First	2	2																										
	Second	2	4																										
	Third	2	6																										
	Fourth	2	8																										
	Fifth	2	10																										
	Sixth	2	12																										
	Seventh	2	14																										
E	First	3	3																										
	Second	3	6																										
	Third	3	9																										
	Fourth	3	12																										
	Fifth	3	15																										
	Sixth	3	18																										
	Seventh	3	21																										
F	First	5	5																										
	Second	5	10																										
	Third	5	15																										
	Fourth	5	20																										
	Fifth	5	25																										
	Sixth	5	30																										
	Seventh	5	35																										
G	First	8	8																										
	Second	8	16																										
	Third	8	24																										
	Fourth	8	32																										
	Fifth	8	40																										
	Sixth	8	48																										
	Seventh	8	56																										
H	First	13	13																										
	Second	13	26																										
	Third	13	39																										
	Fourth	13	52																										
	Fifth	13	65																										
	Sixth	13	78																										
	Seventh	13	91																										
I	First	20	20																										
	Second	20	40																										
	Third	20	60																										
	Fourth	20	80																										
	Fifth	20	100																										
	Sixth	20	120																										
	Seventh	20	140																										

Go down in this column (refer to continuation of table on following page when necessary) till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size to the left of this block. If an asterisk (\*) is reached, follow the instructions in the foot-note. If the sample size equals or exceeds lot or batch size, do 100 percent inspection.

Go up in this column till a block with a double plus (++) or an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the last case, use these numbers and the sample size on the same line to the left of this block (not the original sample size). If a double plus (++) is reached, follow the instructions in the foot-note.

Ac = Acceptance number.

Re = Rejection number.

\* = Use the corresponding single sampling plan (code letter and AQL for this block) (or, alternatively, use the multiple sampling plan below, where available).

++ = Use the corresponding double sampling plan (code letter and AQL for this block) (or, alternatively, use the multiple sampling plan below, where available).

TABLE IV.A – Multiple sampling plans for normal inspection (Master table) (Concluded) (See 9.4 and 9.5)

		Acceptable Quality Levels (normal inspection)																																	
Sample size letter	Sample size	Cumulative sample size	0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0 <sup>†</sup>	6.5	10	15	25	40	45	100	150	250	400	650	1000							
Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re								
K	First	32	32			*																													
	Second	32	64																																
	Third	32	96																																
	Fourth	32	128																																
	Fifth	32	160																																
	Sixth	32	192																																
	Seventh	32	224																																
L	First	50	50																																
	Second	50	100																																
	Third	50	150																																
	Fourth	50	200																																
	Fifth	50	250																																
	Sixth	50	300																																
	Seventh	50	350																																
M	First	80	80																																
	Second	80	160																																
	Third	80	240																																
	Fourth	80	320																																
	Fifth	80	400																																
	Sixth	80	480																																
	Seventh	80	560																																
N	First	125	125																																
	Second	125	250																																
	Third	125	375																																
	Fourth	125	500																																
	Fifth	125	625																																
	Sixth	125	750																																
	Seventh	125	875																																
P	First	200	200			*																													
	Second	200	400																																
	Third	200	600																																
	Fourth	200	800																																
	Fifth	200	1000																																
	Sixth	200	1200																																
	Seventh	200	1400																																
Q	First	315	315			*																													
	Second	315	630																																
	Third	315	945																																
	Fourth	315	1260																																
	Fifth	315	1575																																
	Sixth	315	1890																																
	Seventh	315	2205																																
R	First	500	500			*																													
	Second	500	1000																																
	Third	500	1500																																
	Fourth	500	2000																																
	Fifth	500	2500																																
	Sixth	500	3000																																
	Seventh	500	3500																																

= Go down in this column till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If an asterisk (\*) is reached, follow the instructions in the foot-note.



= Go up in this column (refer to preceding page when necessary) till a block with a double plus (++) or an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If a double plus (++) or an asterisk (\*) is reached, follow the instructions in the foot-note.

# = Acceptance not permitted at this sample size.

Ac = Acceptance number.

Re = Rejection number.

\* = Use corresponding single sampling plan (code letter and AQL for this block) (or, alternatively, use the multiple plan below, where available).

**MULTIPLE  
NORMAL**

TABLE IV-B – Multiple sampling plans for tightened inspection (Master table) (See 9.4 and 9.5)

				Acceptable Quality Levels (tightened inspection)																								
Sample size code letter	Sample size	Cumulative sample size	0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000
Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	
A																												
B																												
C																												
D	First	2	2																									
	Second	2	4																									
	Third	2	6																									
	Fourth	2	8																									
	Fifth	2	10																									
	Sixth	2	12																									
	Seventh	2	14																									
E	First	3	3																									
	Second	3	6																									
	Third	3	9																									
	Fourth	3	12																									
	Fifth	3	15																									
	Sixth	3	18																									
	Seventh	3	21																									
F	First	5	5																									
	Second	5	10																									
	Third	5	15																									
	Fourth	5	20																									
	Fifth	5	25																									
	Sixth	5	30																									
	Seventh	5	35																									
G	First	8	8																									
	Second	8	16																									
	Third	8	24																									
	Fourth	8	32																									
	Fifth	8	40																									
	Sixth	8	48																									
	Seventh	8	56																									
H	First	13	13																									
	Second	13	26																									
	Third	13	39																									
	Fourth	13	52																									
	Fifth	13	65																									
	Sixth	13	78																									
	Seventh	13	91																									
J	First	20	20																									
	Second	20	40																									
	Third	20	60																									
	Fourth	20	80																									
	Fifth	20	100																									
	Sixth	20	120																									
	Seventh	20	140																									

Go down in this column (refer to continuation of table on following page when necessary) till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If an asterisk (\*) is reached, follow the instructions in the foot-note. If the sample size equals or exceeds lot or batch size, do 100 percent inspection.

Go up in this column till a block with a double plus (++) or with acceptance-rejection numbers (Ac Re) is reached. In the last case, use these numbers and the sample size on the same line to the left of this block (not the original sample size). If a double plus (++) or an asterisk (\*) is reached, follow the instructions in the foot-note.

Ac = Acceptance number.

Re = Rejection number.

\* = Use the corresponding single sampling plan (code letter and AQL for this block) (or, alternatively, use the multiple sampling plan below, where available).

++ = Use the corresponding double sampling plan (code letter and AQL for this block) (or, alternatively, use the multiple sampling plan below, where available).

# = Acceptance not permitted at this sample size.

TABLE IV-B — Multiple sampling plans for tightened inspection (Master table) (Concluded) (See 9.4 and 9.5)

				Acceptable Quality Levels (tightened inspection)																										
Sample size-letter	Sample size-code	Cumulative sample size	Ac Re	0.10	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000	
K	First	32	32	*																										
	Second	64	64																											
	Third	96	96																											
	Fourth	128	128																											
	Fifth	160	160																											
	Sixth	192	192																											
	Seventh	224	224																											
L	First	50	50																											
	Second	100	100																											
	Third	150	150																											
	Fourth	200	200																											
	Fifth	250	250																											
	Sixth	300	300																											
	Seventh	350	350																											
M	First	80	80																											
	Second	90	160																											
	Third	90	240																											
	Fourth	90	320																											
	Fifth	80	400																											
	Sixth	80	480																											
	Seventh	80	560																											
N	First	125	125																											
	Second	125	250																											
	Third	125	375																											
	Fourth	125	500																											
	Fifth	125	625																											
	Sixth	125	750																											
	Seventh	125	875																											
P	First	200	200																											
	Second	200	400																											
	Third	200	600																											
	Fourth	200	800																											
	Sixth	200	1200																											
	Seventh	200	1400																											
Q	First	315	315																											
	Second	315	630																											
	Third	315	945																											
	Fourth	315	1260																											
	Fifth	315	1575																											
	Sixth	315	1890																											
	Seventh	315	2205																											
R	First	500	500	*																										
	Second	500	1000																											
	Third	500	1500																											
	Fourth	500	2000																											
	Fifth	500	2500																											
	Sixth	500	3000																											
	Seventh	500	3500																											
S	First	800	800	*																										
	Second	800	1600																											
	Third	800	2400																											
	Fourth	800	3200																											
	Fifth	800	4000																											
	Sixth	800	4800																											
	Seventh	800	5600																											

= Godown in this column till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If an asterisk (\*) is reached, follow the instructions in the foot-note. If the sample size equals or exceeds lot or batch size, do 100 percent inspection.

Go up in this column (refer to preceding page when necessary) till a block with a double plus (++) or an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the last case, use these numbers and the sample size on the same line to the left of this block. If a double plus (++) or an asterisk (\*) is reached, follow the instructions in the foot-note.

Ac = Acceptance number.

Re = Rejection number.

\* = Use corresponding single sampling plan (code letter and AQL for this block) (or, alternatively, use the multiple plan below, where available).

TABLE IV-C – Multiple sampling plans for reduced inspection (Master table) (See 9.4 and 9.5)

Sample size code letter	Sample size	Cumulative sample size	Acceptable Quality Levels (reduced inspection) ↑																											
			0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000		
Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re			
A																														
B																														
C																														
D																														
E																														
F	First	2	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48			
Second	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52			
Third	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52			
Fourth	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52			
Fifth	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52			
Sixth	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52			
Seventh	2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52			
G	First	3	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78	
Second	3	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78		
Third	3	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78		
Fourth	3	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78		
Fifth	3	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78		
Sixth	3	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78		
Seventh	3	3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63	66	69	72	75	78		
H	First	5	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160	
Second	5	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160		
Third	5	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160		
Fourth	5	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160		
Fifth	5	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160		
Sixth	5	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160		
Seventh	5	5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	110	120	130	140	150	160		
J	First	8	8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	170	180	190	200	210	220	
Second	8	8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	170	180	190	200	210	220		
Third	8	8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	170	180	190	200	210	220		
Fourth	8	8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	170	180	190	200	210	220		
Fifth	8	8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	170	180	190	200	210	220		
Sixth	8	8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	170	180	190	200	210	220		
Seventh	8	8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120	128	136	144	152	160	170	180	190	200	210	220		
K	First	13	13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351
Second	13	13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351	
Third	13	13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351	
Fourth	13	13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351	
Fifth	13	13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351	
Sixth	13	13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351	
Seventh	13	13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195	208	221	234	247	260	273	286	299	312	325	338	351	

= Go down in this column (refer to continuation of table on following page when necessary) till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If an asterisk (\*) is reached, follow the instructions in the foot-note. If the sample size equals or exceeds lot or batch size, do 100 percent inspection.

= Go up in this column till a block with a double plus (++) or an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the last case, use these numbers and the sample size on the same line to the left of this block (not the original sample size). If a double plus (++) or an asterisk (\*) is reached, follow the instructions in the foot-note.

Ac = Acceptance number.

Re = Rejection number.

\* = Use the corresponding single sampling plan (code letter and AQL for this block) (or, alternatively, use the multiple sampling plan below, where available).

++ = Use the corresponding double sampling plan (code letter and AQL for this block) (or, alternatively, use the multiple sampling plan below, where available).

# = Acceptance not permitted at this sample size.

† = If, after the final sample, the acceptance number has been exceeded, but the rejection number has not been reached, accept the lot but reinstate normal inspection (see 10.1.4).

TABLE IV-C – Multiple sampling plans for reduced inspection (Master table) (Concluded) (See 9.4 and 9.5)

Sample size code letter	Sample size	Cumulative sample size	Acceptable Quality Levels (reduced inspection) <sup>†</sup>																											
			0.10	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000		
Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re					
L	First	20	20			*				#	2	#	3	#	4	#	4	0	5	1	6	1	7	3	9					
	Second	20	40						#	2	#	3	#	4	#	4	0	5	1	6	2	8	3	9	6	12				
	Third	20	60							0	2	0	3	0	4	0	5	1	6	2	7	3	10	5	12	8	15			
	Fourth	20	80							0	3	0	4	0	5	1	6	2	7	3	10	7	11	7	17	11	17			
	Fifth	20	100							0	3	0	4	0	5	1	6	2	7	3	8	4	9	7	12	10	15	14	20	
	Sixth	20	120							0	3	1	5	1	6	2	7	4	8	6	10	9	14	13	17	18	22			
	Seventh	20	140							1	3	1	5	2	7	4	8	6	10	9	14	13	17	18	22					
M	First	32	32			*				#	2	#	3	#	4	#	4	0	5	1	6	1	7	3	9					
	Second	32	64						#	2	#	3	#	4	#	4	0	5	1	6	2	8	3	9	6	12				
	Third	32	96							0	2	0	3	0	4	0	5	1	6	2	7	3	10	5	12	8	15			
	Fourth	32	128							0	3	0	4	0	5	1	6	2	7	3	8	5	11	7	13	11	17			
	Fifth	32	160							0	3	0	4	1	5	1	6	2	7	3	7	4	9	7	12	10	15	14	20	
	Sixth	32	192							0	3	1	5	1	6	3	7	4	9	7	12	10	15	14	20					
	Seventh	32	224							1	3	1	5	2	7	4	8	6	10	9	14	13	17	18	22					
N	First	50	50			*				#	2	#	3	#	4	#	4	0	5	1	6	1	7	3	9					
	Second	50	100						#	2	#	3	#	4	#	4	0	5	1	6	2	8	3	9	6	12				
	Third	50	150							0	2	0	3	0	4	0	5	1	6	2	7	3	10	5	12	8	15			
	Fourth	50	200							0	3	0	4	0	5	1	6	2	7	3	8	5	11	7	13	11	17			
	Fifth	50	250							0	3	0	4	1	6	2	7	3	8	5	11	7	12	10	15	14	20			
	Sixth	50	300							0	3	1	5	1	6	3	7	4	9	7	12	10	15	14	20					
	Seventh	50	350							1	3	1	5	2	7	4	8	6	10	9	14	13	17	18	22					
P	First	80	80			*				#	2	#	3	#	4	#	4	0	5	1	6	1	7	3	9					
	Second	80	160						#	2	#	3	#	4	#	4	0	5	1	6	2	8	3	9	6	12				
	Third	80	240							0	2	0	3	0	4	0	5	1	6	2	7	3	10	5	12	8	15			
	Fourth	80	320							0	3	0	4	0	5	1	6	2	7	3	8	5	11	7	12	10	15	14	20	
	Fifth	80	400							0	3	0	4	1	6	2	7	3	8	5	11	7	12	10	15	14	20			
	Sixth	80	480							0	3	1	5	1	6	3	7	4	9	7	12	10	15	14	20					
	Seventh	80	560							1	3	1	5	2	7	4	8	6	10	9	14	13	17	18	22					
Q	First	125	125			*				#	2	#	3	#	4	#	4	0	5	1	6	1	7	3	9					
	Second	125	250						#	2	#	3	#	4	#	4	0	5	1	6	2	8	3	9	6	12				
	Third	125	375							0	2	0	3	0	4	0	5	1	6	2	7	3	10	5	12	8	15			
	Fourth	125	500							0	3	0	4	0	5	1	6	2	7	3	8	5	11	7	12	10	15	14	20	
	Fifth	125	625							0	3	0	4	1	6	2	7	3	8	5	11	7	12	10	15	14	20			
	Sixth	125	750							0	3	1	5	1	6	3	7	4	9	7	12	10	15	14	20					
	Seventh	125	875							1	3	1	5	2	7	4	8	6	10	9	14	13	17	18	22					
R	First	200	200			*				#	2	#	3	#	4	#	4	0	5	1	6	1	7	3	9					
	Second	200	400						#	2	#	3	#	4	#	4	0	5	1	6	2	8	3	9	6	12				
	Third	200	600							0	2	0	3	0	4	0	5	1	6	2	7	3	10	5	12	8	15			
	Fourth	200	800							0	3	0	4	0	5	1	6	2	7	3	8	5	11	7	12	10	15	14	20	
	Fifth	200	1000							0	3	0	4	1	6	2	7	3	8	5	11	7	12	10	15	14	20			
	Sixth	200	1200							0	3	1	5	1	6	3	7	4	9	7	12	10	15	14	20					
	Seventh	200	1400							1	3	1	5	2	7	4	8	6	10	9	14	13	17	18	22					

= Go down in this column till a block with an asterisk (\*) or with acceptance-rejection numbers (Ac Re) is reached. In the latter case, use these numbers and the sample size on the same line to the left of this block. If an asterisk (\*) is reached, follow the instructions in the foot-note. If the sample size equals or exceeds lot or batch size, do 100 percent inspection.

= Acceptance number.

Re = Rejection number.

# = Acceptance not permitted at this sample size.

† = If, after the final sample, the acceptance number has been exceeded, but the rejection number has not been reached, accept the lot, but reinstate normal inspection (see 10.1.4).

TABLE V-A – Average outgoing quality limit factors for normal inspection (Single sampling) (See 11.4)

Code Letter	Sample Size	Acceptable Quality Level																										
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000	
A	2															18			42	69	97	160	220	330	470	730	1100	
B	3															12			28	46	65	110	150	220	310	490	720	1100
C	5															7.4			17	27	39	63	90	130	190	290	430	660
D	8															4.6			11	17	24	40	56	82	120	180	270	410
E	13															2.8			6.5	11	15	24	34	50	72	110	170	250
F	20															1.8			4.2	6.9	9.7	16	22	33	47	73		
G	32															1.2			2.6	4.3	6.1	9.9	14	21	29	46		
H	50															0.74			1.7	2.7	3.9	6.3	9.0	13	19	29		
J	80															0.46			1.1	1.7	2.4	4.0	5.6	8.2	12	18		
K	125															0.29			0.67	1.1	1.6	2.5	3.6	5.2	7.5	12		
L	200															0.18			0.42	0.69	0.97	1.6	2.2	3.3	4.7	7.3		
M	315															0.12			0.27	0.44	0.62	1.00	1.4	2.1	3.0	4.7		
N	500															0.074			0.17	0.27	0.39	0.63	0.90	1.3	1.9	2.9		
P	800															0.046			0.11	0.17	0.24	0.40	0.56	0.82	1.2	1.8		
Q	1250	0.029														0.067	0.11	0.16	0.25	0.36	0.52	0.75	1.2					
R	2000															0.042	0.069	0.097	0.16	0.22	0.33	0.47	0.73					

Note : For the exact AOQL, the above values must be multiplied by  $(1 - \frac{\text{sample size}}{\text{lot or batch size}})$  (See 11.4.)

TABLE V-B – Average outgoing quality limit factors for tightened inspection (Single sampling) (See 11.4)

Code letter	Sample size	Acceptable Quality Level																										
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000	
A	2													7.4	12		28	42	69	97	160	260	400	620	970			
B	3													4.6		17	27	39	63	110	170	270	410	650	970			
C	5													1.8	2.8		4.2	6.5	6.9	11	160	250	390	610				
D	8													0.46		1.1	17	24	40	64	99	160	240	380				
E	13													0.74	1.2		2.6	4.3	6.1	9.9	16	25	39					
F	20													0.46	0.74		1.1	1.7	2.7	3.9	10	16	25					
G	32													0.29	0.46		0.67	1.1	1.6	2.5	4.1	6.4	9.9					
H	50													0.18	0.29		0.42	0.69	0.97	1.6	2.6	4.0	6.2					
J	80													0.12	0.22		0.27	0.44	0.62	1.0	1.6	2.5	3.9					
K	125													0.074	0.17		0.27	0.39	0.63	1.0	1.6	2.5						
L	200													0.046	0.11		0.17	0.24	0.40	0.64	0.99	1.6						
M	315													0.029	0.067		0.11	0.16	0.25	0.41	0.64	0.99						
N	500													0.018	0.042		0.069	0.097	0.16	0.26	0.40	0.62						
P	800													0.018	0.027													
Q	1250																											
R	2000																											
S	3150																											

Note : For the exact AOQL, the above values must be multiplied by  $(1 - \frac{\text{sample size}}{\text{lot or batch size}})$  (See 11.4.)

AOQL  
TIGHTENED

TABLE VI-A – Limiting quality (in percent defective) for which  $P_a = 10$  percent (for normal inspection, single sampling) [See 11.6]

Code letter	Sample size	Acceptable Quality Level															
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10
A	2															68	
B	3															58	
C	5																
D	8															41	54
E	13															36	44
F	20															30	42
G	32																
H	50															27	34
J	80															18	22
K	125															14	29
L	200															14	24
M	315																
N	500																
P	800																
Q	1250																
R	2000																

**LQ (DEFECTIVES)  
10.0%**

TABLE VI-B – Limiting quality (in defects per hundred units) for which  $P_a = 10$  percent (for normal inspection, single sampling) (See 11.6)

Code letter	Sample size	Acceptable Quality Level																											
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000		
A	2																120			200	270	330	460	590	770	1000	1400	1900	
B	3																77			130	180	220	310	390	510	670	940	1300	1800
C	5																46			78	110	130	190	240	310	400	560	770	1100
D	8																29			49	67	84	120	150	190	250	350	480	670
E	13																18			30	41	51	71	91	120	160	220	300	410
F	20																12			20	27	33	46	59	77	100	140		
G	32																7.2			12	17	21	29	37	48	63	88		
H	50																4.6			7.8	11	13	19	24	31	40	56		
J	80																2.9			4.9	6.7	8.4	12	15	19	25	35		
K	125																1.8			3.1	4.3	5.4	7.4	9.4	12	16	23		
L	200																1.2			2.0	2.7	3.3	4.6	5.9	7.7	10	14		
M	315																0.73			1.2	1.7	2.1	2.9	3.7	4.9	6.4	9.0		
N	500																0.46			0.78	1.1	1.3	1.9	2.4	3.1	4.0	5.6		
P	800																0.29			0.49	0.67	0.84	1.2	1.5	1.9	2.5	3.5		
Q	1250	0.18															0.46			0.31	0.43	0.53	0.74	0.94	1.2	1.6	2.3		
R	2000																0.20			0.27	0.33	0.46	0.59	0.77	1.0	1.4			

LQ (DEFECTS)  
10%

TABLE VII-A — Limiting quality (in percent defective) for which  $P_a = 5$  percent (for normal inspection, single sampling) (See 11.6)

Code letter	Sample size	Acceptable Quality Level															
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10
A	2																
B	3																
C	5																
D	8																
E	13																
F	20																
G	32																
H	50																
J	80																
K	125																
L	200																
M	315																
N	500																
P	800																
Q	1250																
R	2000																

**LQ (DEFECTIVES)  
5.0%**

TABLE VII-B – Limiting quality (in defects per hundred units) for which  $P_a = 5$  percent (for normal inspection, single sampling) (See 11.6)

Code letter	Sample size	Acceptable Quality Level																														
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000					
A	2															150					240	320	390	530	660	850	1100	1500	2000			
B	3															100					160	210	260	350	440	570	730	1000	1400	1900		
C	5															60					95	130	160	210	260	340	440	610	810	1100		
D	8															38					59	79	97	130	160	210	270	380	510	710		
E	13															23					37	48	60	81	100	130	170	230	310	440		
F	20															15					24	32	39	53	66	85	110	150				
G	32															9.4					15	20	24	33	41	53	68	95				
H	50															6.0					9.5	13	16	21	26	34	44	61				
J	80															3.8					5.9	7.9	9.7	13	16	21	27	38				
K	125															2.4					3.8	5.0	6.2	8.4	11	14	18	24				
L	200															1.5					2.4	3.2	3.9	5.3	6.6	8.5	11	15				
M	315															0.95					1.5	2.0	2.5	3.3	4.2	5.4	7.0	9.6				
N	500															0.60					0.95	1.3	1.6	2.1	2.6	3.4	4.4	6.1				
P	800															0.38					0.59	0.79	0.97	1.3	1.6	2.1	2.7	3.8				
Q	1250	0.24														0.38	0.50	0.62	0.84	1.1	1.4	1.8	2.4									
R	2000															0.24	0.32	0.39	0.53	0.66	0.85	1.1	1.5									

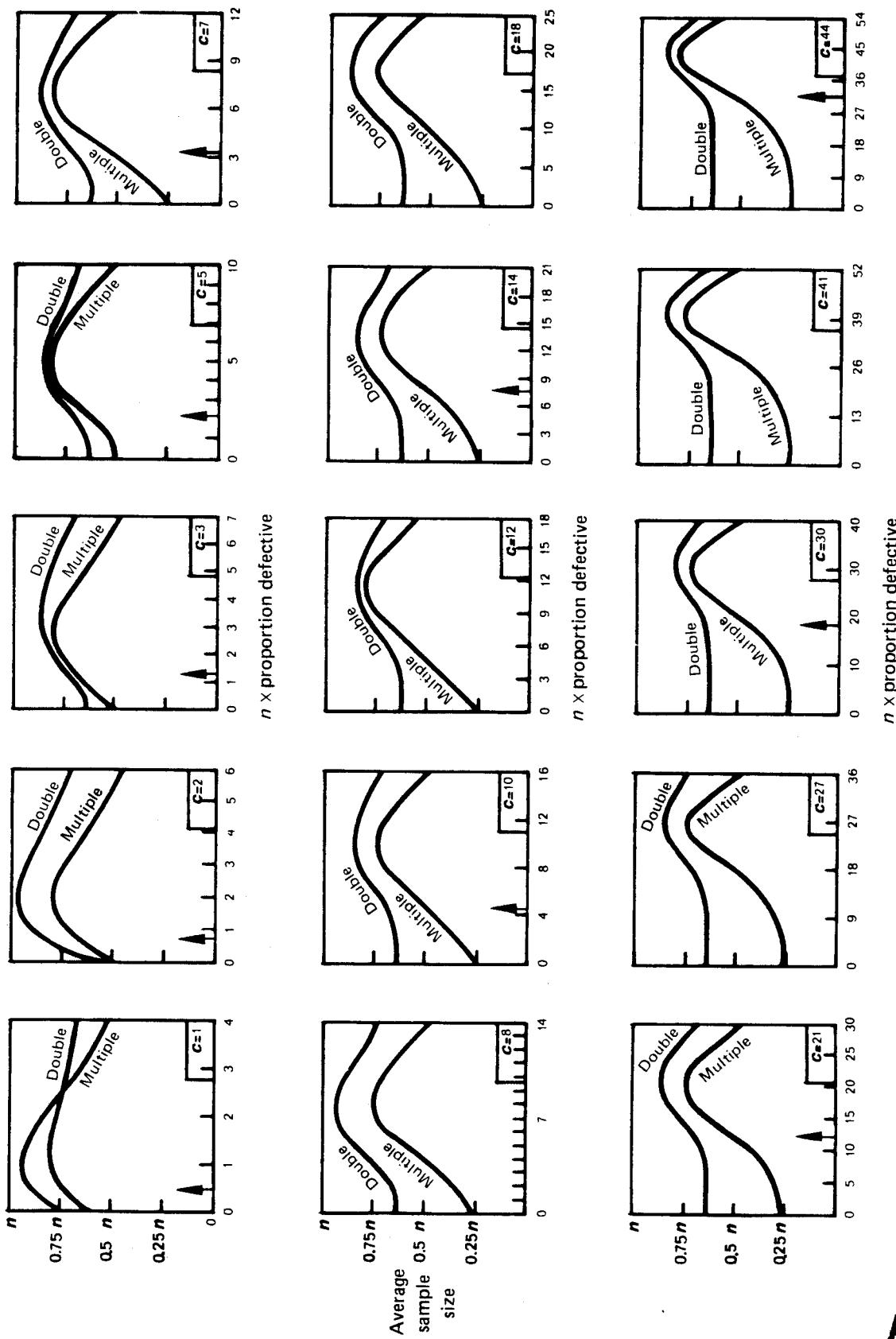
LQ (DEFECTS)  
5%

TABLE VII – Limit numbers for reduced inspection (See 8.3.3)

Number of sample units from last 10 lots or batches	Acceptable Quality Level																												
	0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	80	100	150	250	400	650	1000		
20 - 29	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	4	8	14	22	40	68	115	181
30 - 49	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	1	3	6	13	22	36	63	105	177	277
50 - 79	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	3	7	14	25	40	63	110	181	301
80 - 129	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	4	7	14	24	42	68	105	181	297
130 - 199	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	4	7	13	25	42	72	115	177	301
200 - 319	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	4	8	14	22	40	68	115	181	277
320 - 499	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	1	4	8	14	24	39	68	105	181	297
500 - 799	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	3	7	14	25	40	63	110	181	490
800 - 1249	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	4	7	14	24	42	68	115	181	471
1250 - 1999	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	1	4	8	14	24	39	68	113	189	
2000 - 3149	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	3	7	14	25	40	63	110	181	
3150 - 4999	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	1	4	8	14	24	38	67	111	185	
5000 - 7999	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	4	7	13	24	40	69	110	189	
8000 - 12499	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	4	8	14	22	40	68	115	181	
12500 - 19999	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	1	4	8	14	24	42	68	115	181	
20000 - 31499	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	3	7	14	25	40	63	110	181	
31500 - 49999	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	0	0	2	4	7	13	24	40	69	110	189	
50000 & Over	2	3	7	14	25	40	63	110	181	301																			

\* Denotes that the number of sample units from the last ten lots or batches is not sufficient for reduced inspection for this AQL. In this instance more than ten lots or batches may be used for the calculation, provided that the lots or batches used are the most recent ones in sequence, that they have all been on normal inspection, and that none has been rejected while on original inspection.

TABLE IX — Average sample size curves for double and multiple sampling (normal and tightened inspection) (See 11.5)



$n$  = Equivalent single sample size  
 $c$  = Single sample acceptance number  
 → = AQL for normal inspection

Note : Curves assume curtailment of inspection in second and subsequent samples as soon as a decision for rejection becomes certain.

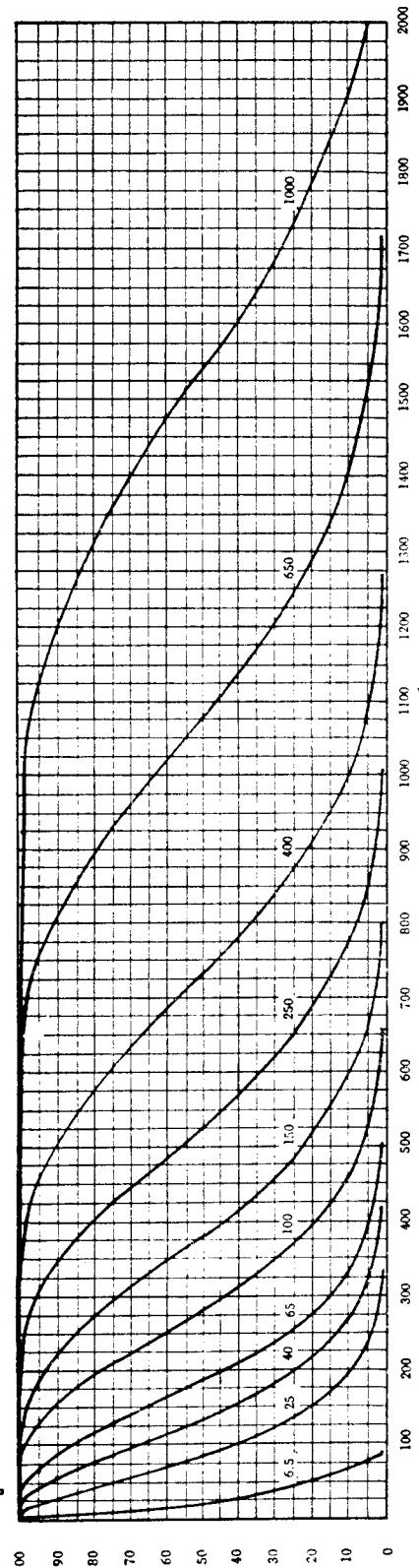
AVERAGE  
SAMPLE SIZE

A

TABLE X-A — Tables for sample size code letter : A

**CHART A - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)

QUALITY OF SUBMITTED LOTS (p, in percent defective for AQL's  $\leq 10$ ; in defects per hundred units for AQL's  $> 10$ )

Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-A.1 — Tabulated values for operating characteristic curves for single sampling plans

P <sub>a</sub>	Acceptable Quality Levels (normal inspection)										Acceptable Quality Levels (tightened inspection)				
	6.5	6.5	25	40	65	100	150	250	400	650	1000	650	1000		
P <sub>a</sub> (in percent defective)															
99.0	0.501	0.51	7.45	21.8	41.2	89.2	145	175	239	305	374	517	629	859	977
95.0	2.53	2.56	17.8	40.9	68.3	131	199	235	308	385	462	622	745	995	1122
90.0	5.13	5.25	26.6	55.1	87.3	158	233	272	351	432	515	684	812	1073	1206
75.0	13.4	14.4	48.1	86.8	127	211	298	342	431	521	612	795	934	1314	1354
50.0	29.3	34.7	83.9	134	184	284	383	433	533	633	733	933	1083	1383	1533
25.0	50.0	69.3	135	196	256	371	484	540	651	761	870	1087	1248	1568	1728
10.0	68.4	115	195	266	334	464	589	650	770	889	1006	1238	1409	1748	1916
5.0	77.6	150	237	315	388	526	657	722	848	972	1094	1334	1512	1862	2035
1.0	90.0	230	332	420	502	635	800	870	1007	1141	1272	1529	1718	2088	2270
		X	X	40	65	100	150	X	250	X	400	X	650	X	1000

Note : Binomial distribution used for percent defective computations; Poisson for defects per hundred units.

TABLE X-A-2 – Sampling plans for sample size code letter : A

Type of sampling plan	Cumulative sample size Less than 6.5	Acceptable Quality Levels (normal inspection)														Cumulative sample size 1000																
		Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re																	
Single	2	▽	0	1				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	27	28	30	31	2	
Double		▽	*		Use	Use	Use					(*)	(*)	(*)	(*)	(*)																
Multiple		▽	*		Letter	Letter	Letter	D	C	B																						
		Less than 10	×	10	15	25	40	65	100	150	×	250	400	650	1000	×																

Acceptable Quality Levels (tightened inspection)

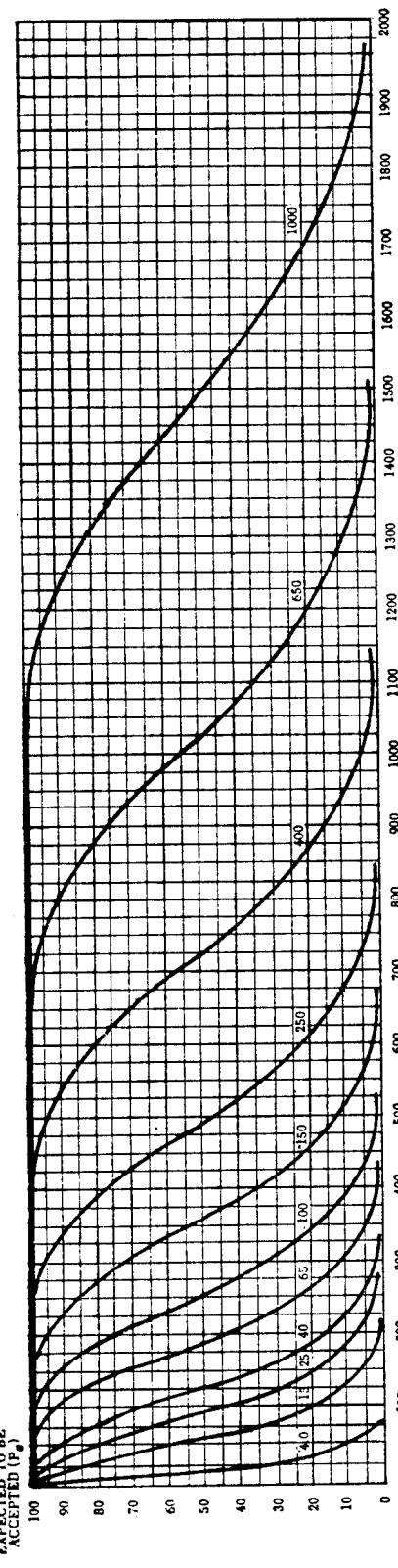
- ▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.
- Ac = Acceptance number.
- Re = Rejection number.
- \* = Use single sampling plan above (or alternatively use letter D).
- (\*) = Use single sampling (or alternatively use letter B).

A

TABLE X-B - Tables for sample size code letter : B

**CHART B - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)

QUALITY OF SUBMITTED LOTS ( $p$ , in percent defective for AQL's  $\leq 10$ ; in defects per hundred units for AQL's  $> 10$ )

Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-B-1 - Tabulated values for operating characteristic curves for single sampling plans

P <sub>a</sub>	Acceptable Quality Levels (normal inspection)										Acceptable Quality Levels (tightened inspection)						
	4.0	4.0	15	25	40	65	100	150	250	400	650	1000	650	1000			
p (in percent defective)																	
99.0	0.33	0.34	4.97	14.5	27.4	59.5	96.9	117	159	203	249	345	419	573	651	947	1029
95.0	1.70	1.71	11.8	27.3	45.5	87.1	133	157	206	256	308	415	496	663	748	1065	1152
90.0	3.45	3.50	17.7	36.7	58.2	105	155	181	234	288	343	456	541	716	804	1131	1222
75.0	9.14	9.60	32.0	57.6	84.5	141	199	228	287	347	408	530	623	809	903	1249	1344
50.0	20.6	23.1	55.9	89.1	122	189	256	289	356	422	489	622	722	922	1022	1389	1489
25.0	37.0	46.2	89.8	131	170	247	323	360	434	507	580	724	832	1046	1152	1539	1644
10.0	53.6	76.8	130	177	223	309	392	433	514	593	671	825	939	1165	1277	1683	1793
5.0	63.2	99.9	158	210	258	350	438	481	565	648	730	890	1008	1241	1356	1773	1886
1.0	78.4	154	221	280	335	437	533	580	672	761	848	1019	1145	1392	1513	1951	2069
0.5	6.5	6.5	25	40	65	100	150	250	400	650	1000	X	X	X	X	X	X

Acceptable Quality Levels (tightened inspection)

Note : Binomial distribution used for percent defective computations; Poisson for defects per hundred units.

TABLE X-B-2 – Sampling plans for sample size code letter : B

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)																		Acceptable Quality Levels (tightened inspection)																			
		Less than 4.0	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000	Less than 6.5	6.5	10	15	25	40	65	100	150	250	400	650	1000											
Single	3	▽	0	1				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	27	28	30	31	41	42	44	45	3				
Double	2	▽	*					0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	15	20	17	22	23	29	31	2		
	4				Use	Use	Letter	Letter	Letter	1	2	3	4	4	5	6	7	8	9	11	12	13	15	16	18	19	23	24	26	27	34	35	37	38	52	53	56	57	4
					A	D	C																																
Multiple					▽	*																																	
					Less than 6.5	6.5																																	

▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.  
 Ac = Acceptance number  
 Re = Rejection number  
 \* = Use single sampling plan above (or alternatively use letter E).  
 ++ = Use double sampling plan above (or alternatively use letter D).



TABLE X-C – Tables for sample size code letter : C

**CHART C - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)

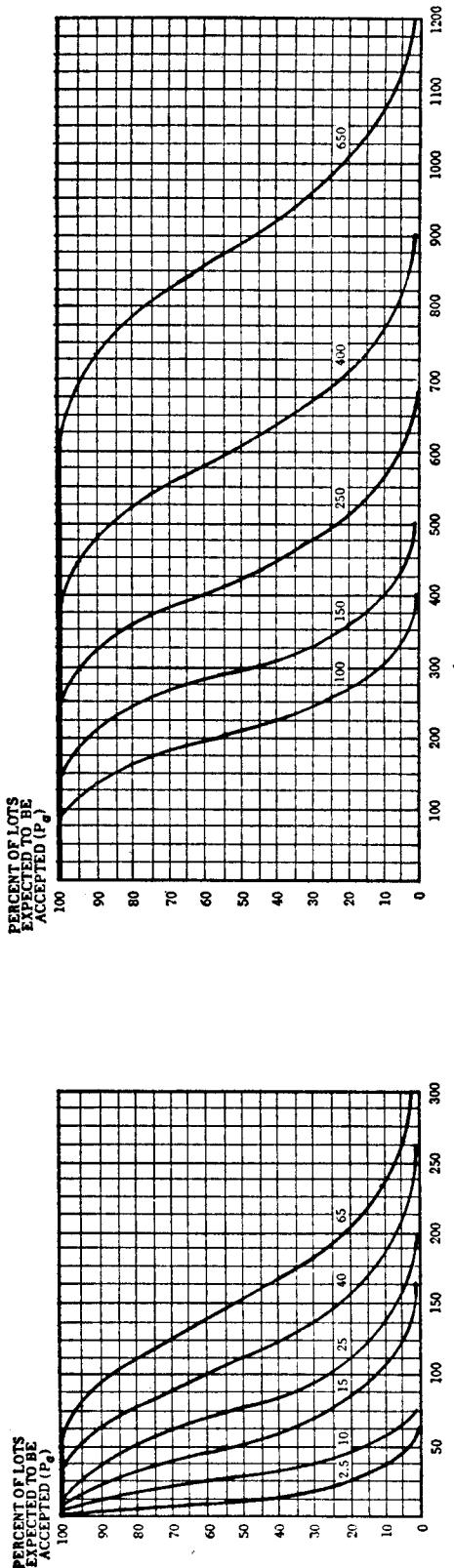


TABLE X-C-1 – Tabulated values for operating characteristic curves for single sampling plans

$P_a$	Acceptable Quality Levels (normal inspection)										Acceptable Quality Levels (tightened inspection)				
	2.5	10	2.5	10	15	25	40	65	> 100	< 100	150	250	400	650	
99.0	0.20	3.28	0.20	2.89	8.72	16.5	35.7	58.1	70.1	95.4	122	150	207	251	344
95.0	1.02	7.63	1.03	7.10	16.4	27.3	52.3	79.6	93.9	123	154	185	249	298	398
90.0	2.09	11.2	2.10	10.6	22.0	34.9	63.0	93.1	109	140	173	206	273	325	429
75.0	5.59	19.4	5.76	19.2	34.5	50.7	84.4	119	137	172	208	245	318	374	485
50.0	12.9	31.4	13.9	33.6	53.5	73.4	113	153	173	213	253	293	373	433	553
25.0	24.2	45.4	27.7	53.9	78.4	102	148	194	216	260	304	348	435	499	627
10.0	36.9	58.4	46.1	77.8	106	134	186	235	260	308	356	403	495	564	699
5.0	45.1	65.8	59.9	94.9	126	155	210	263	289	339	389	438	534	605	745
1.0	60.2	77.8	92.1	133	168	201	262	320	348	403	456	509	612	687	835
4.0			4.0	15	25	40	65	> 100	< 100	150	250	400	650		

Note : Binomial distribution used for percent defective computations; Poisson for defects per hundred units.

TABLE X-C.2 – Sampling plans for sample size code letter : C

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (tightened inspection)																Cumulative sample size																		
		Less than 2.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000																				
Single	5	▽	0	1	Use	Use	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	27	28	30	31	41	42	44	45	5	
Double	3	▽	*	Use	Use	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	15	20	17	22	23	29	31	3	
	6	▽	*	Letter	Letter	1	2	3	4	4	5	6	7	8	9	11	12	12	13	15	16	18	19	23	24	26	27	34	35	37	38	52	53	56	57	6
				B	E	D																												B		
Multiple		▽	*																																	
				Less than 4.0	4.0	6.5	10	15	25	40	65	> 100	100	> 100	150	> 150	250	> 250	400	> 400	650	> 650	1000	> 1000												

▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number.  
Re = Rejection number.

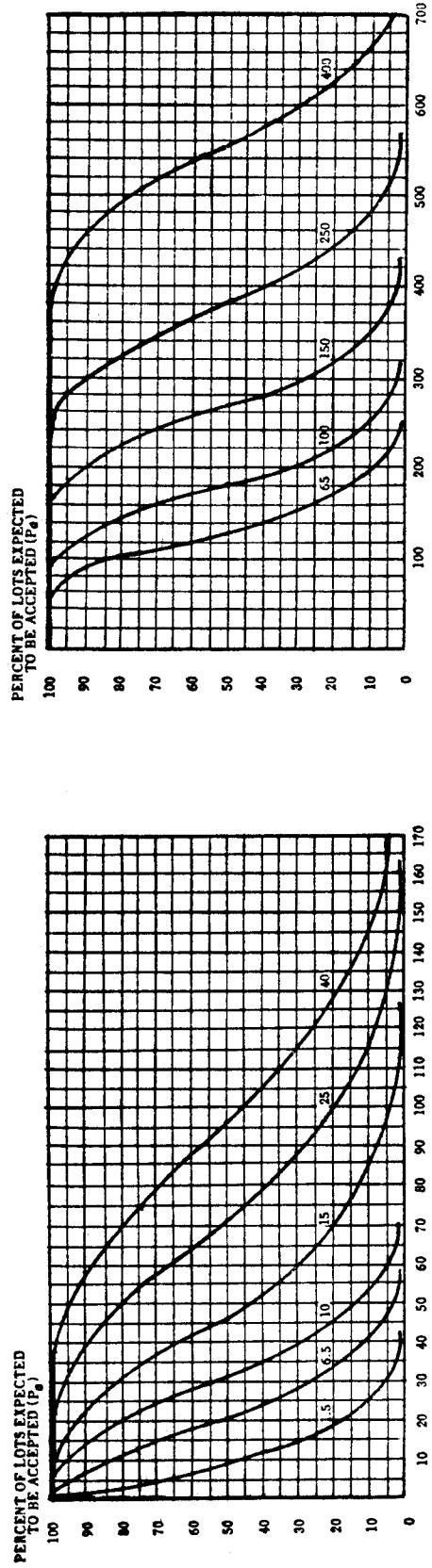
\* = Use single sampling plan above (or alternatively use letter F).  
++ = Use double sampling plan above (or alternatively use letter D).



TABLE X-D - Tables for sample size code letter : D

**CHART D - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)



Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-D-1 - Tabulated values for operating characteristic curves for single sampling plans

P <sub>a</sub>	Acceptable Quality Levels (normal inspection)										Acceptable Quality Levels (tightened inspection)								
	1.5	6.5	10	1.5	6.5	10	15	25	40	40	65	100	100	150	250	250	400		
P <sub>a</sub> (in percent defective)																			
99.0	0.13	2.00	6.00	0.13	1.86	5.45	10.3	22.3	36.3	43.8	59.6	76.2	93.5	129	157	215	244	355	386
95.0	0.64	4.64	11.1	0.64	4.44	10.2	17.1	32.7	49.8	58.7	77.1	96.1	116	156	186	249	281	399	432
90.0	1.31	6.88	14.7	1.31	6.65	13.8	21.8	39.4	58.2	67.9	87.8	108	129	171	203	268	301	424	458
75.0	3.53	12.1	22.1	3.60	12.0	21.6	31.7	52.7	74.5	85.5	108	130	153	199	234	303	339	468	504
50.0	8.30	20.1	32.1	8.66	21.0	33.4	45.9	70.9	95.9	108	133	158	183	233	271	346	383	521	553
25.0	15.9	30.3	43.3	17.3	33.7	49.0	63.9	92.8	121	135	163	190	218	272	312	392	432	577	617
10.0	25.0	40.6	53.9	28.8	48.6	66.5	83.5	116	147	162	193	222	252	309	352	437	478	631	672
5.0	31.2	47.1	59.9	37.5	59.3	78.7	96.9	131	164	180	212	243	274	334	378	465	509	665	707
1.0	43.8	58.8	70.7	57.6	83.0	105	126	164	200	218	252	285	318	382	429	522	568	732	776
2.5	10	2.5	10	1.5	2.5	40	40	65	100	100	150	150	250	250	400	400	400	400	

Acceptable Quality Levels (tightened inspection)

Note: Binomial distributions used for percent defective computations; Poisson for defects per hundred value.

TABLE X-D-2 – Sampling plans for sample size code letter : D

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)																		Cumulative sample size																		
		Less than 1.5	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	Higher than 400																						
Single	8	▽	0	1	Use	Use	Use	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	27	28	30	31	41	42	44	45	△	8		
Double	5	▽	*	Letter	Letter	Letter	Letter	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	15	20	17	22	23	29	31	△	5
	10			C	F	E		1	2	3	4	5	6	7	8	9	11	12	13	15	16	18	19	23	24	26	27	34	35	37	38	52	53	56	57	10		
	2	▽	*					*	2	*	3	*	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	3	10	4	12	6	15	16	△	2		
	4							#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14	10	17	11	19	16	25	17	27	4
	6							0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19	17	24	19	27	26	36	29	39	6
	8							0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25	24	31	27	34	37	46	40	49	8
	10							1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	29	32	37	36	40	49	55	53	58	10	
	12							1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	31	33	40	43	45	47	61	64	68	12	
	14							2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	32	33	37	38	48	49	53	54	72	73	77	78	14	
	Less than 2.5								*	4.0	6.5	10	15	25	40	×	65	×	100	×	150	×	250	×	400	×	Higher than 400											

Acceptable Quality Levels (tightened inspection)

△ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.

▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number

Re = Rejection number

\* = Use single sampling plan above (or alternatively use letter G).

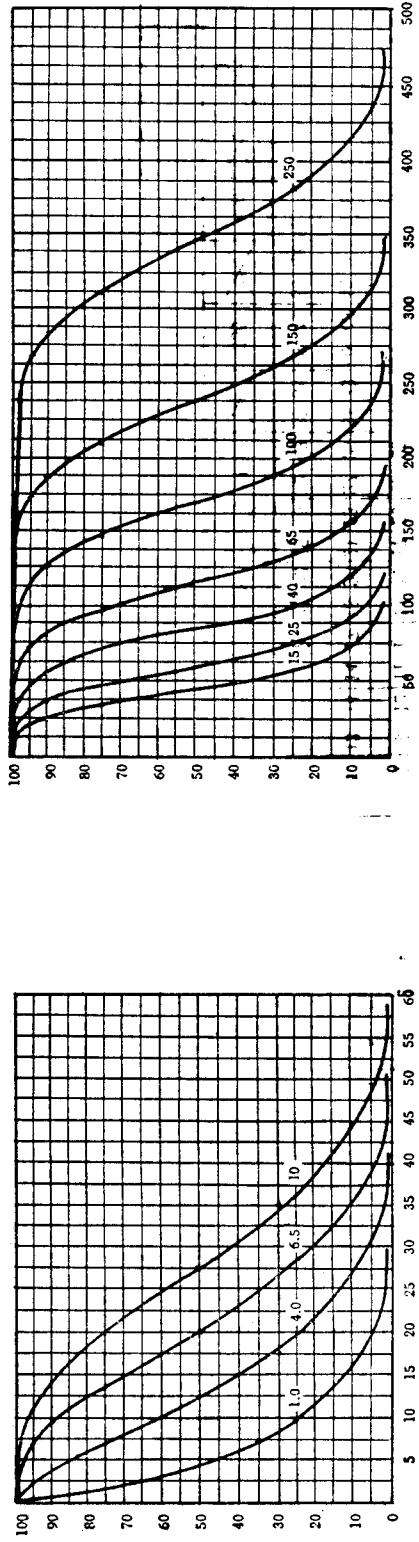
# = Acceptance not permitted at this sample size.

D

TABLE X-E – Tables for sample size code letter : E

### CHART E - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS

PERCENT OF LOTS EXPECTED TO BE ACCEPTED ( $P_a$ )  
(Curves for double and multiple sampling are matched as closely as practicable)



QUALITY OF SUBMITTED LOTS ( $p$ , in percent defective for  $AQL \leq 10$ ; in defects per hundred units for  $AQL > 10$ )

Note: Figures on curves are Acceptable Quality Levels ( $AQL_n$ ) for normal inspection.

TABLE X-E-1 – Tabulated values for operating characteristic curves for single sampling plans

$P_a$	Acceptable Quality Levels (normal inspection)												Acceptable Quality Levels (tightened inspection)							
	1.0	4.0	6.5	10	1.4	4.0	6.5	10	15	25	40	65	100	150	250					
$p$ (in percent defective)																				
99.0	0.077	1.19	3.63	7.00	0.078	1.15	3.35	6.33	13.7	22.4	27.0	36.7	46.9	57.5	79.6	96.7	132	150	219	238
95.0	0.394	2.81	6.63	11.3	0.395	2.73	6.29	10.5	20.1	30.6	36.1	47.5	59.2	71.1	95.7	115	153	173	246	266
90.0	0.807	4.16	8.80	14.2	0.808	4.09	8.48	13.4	24.2	35.8	41.8	54.0	66.5	79.2	105	125	165	185	261	282
75.0	2.19	7.41	13.4	19.9	2.22	7.39	13.3	19.5	32.5	45.8	52.6	66.3	80.2	94.1	122	144	187	203	288	310
50.0	5.19	12.6	20.0	27.5	5.33	12.9	20.6	28.2	43.6	59.0	66.7	82.1	97.5	113	144	168	213	236	321	344
25.0	10.1	19.4	28.0	36.2	10.7	20.7	30.2	39.3	57.1	74.5	83.1	100	117	134	167	192	241	266	355	379
10.0	16.2	26.8	36.0	44.4	17.7	29.9	40.9	51.4	71.3	90.5	100	119	137	155	190	217	269	295	388	414
5.0	20.6	31.6	41.0	49.5	23.0	36.5	48.4	59.6	80.9	101	111	130	150	168	205	233	286	313	409	435
1.0	29.8	41.5	50.6	58.7	35.4	51.1	64.7	77.3	101	123	134	155	176	196	235	264	321	349	450	477
1.5	6.5	10	$\times$	1.5	6.5	10	15	25	$\times$	40	$\times$	65	$\times$	100	$\times$	150	$\times$	250	$\times$	

Note: Binomial distribution used for percent defective computations; Poisson for defects per hundred units.

TABLE X-E-2 – Sampling plans for sample size code letter : E

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)																		Cumulative sample size																					
		Less than 1.0	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	Higher than 250																									
Single	13	▽	0	1	Use	Use	1	2	2	3	4	5	6	7	8	9	10	11	12	1314	15	18	1921	22	27	28	30	31	41	42	44	45	△	13							
Double	8	▽	*	Letter	Letter	Letter	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	15	20	17	22	23	29	31	△	8				
Double	16		*	D	G	F	1	2	3	4	5	6	7	8	9	11	12	12	13	15	1618	19	23	24	26	27	34	35	37	38	52	53	56	57	16						
Multiple	3	▽	*				#	2	*	3	*	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	3	10	4	12	6	15	6	16	△	3					
Multiple	6		*				#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14	10	17	11	19	16	25	17	27	6				
Multiple	9		*				0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19	17	24	19	27	26	36	29	39	9				
Multiple	12		*				0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25	24	31	27	34	37	46	40	49	12				
Multiple	15		*				1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	25	29	32	37	36	40	49	55	53	58	15				
Multiple	18		*				1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	31	33	40	43	45	47	61	64	65	68	18				
Multiple	21		*				2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37	38	48	49	53	54	72	73	77	78	21				
							Less than 1.5			2.5	4.0	6.5	10	15	25	40	40	65	65	100	100	150	150	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250

Acceptable Quality Levels (tightened inspection)

△ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.

▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number.

Re = Rejection number.

\* = Use single sampling plan above (or alternatively, use letter H).

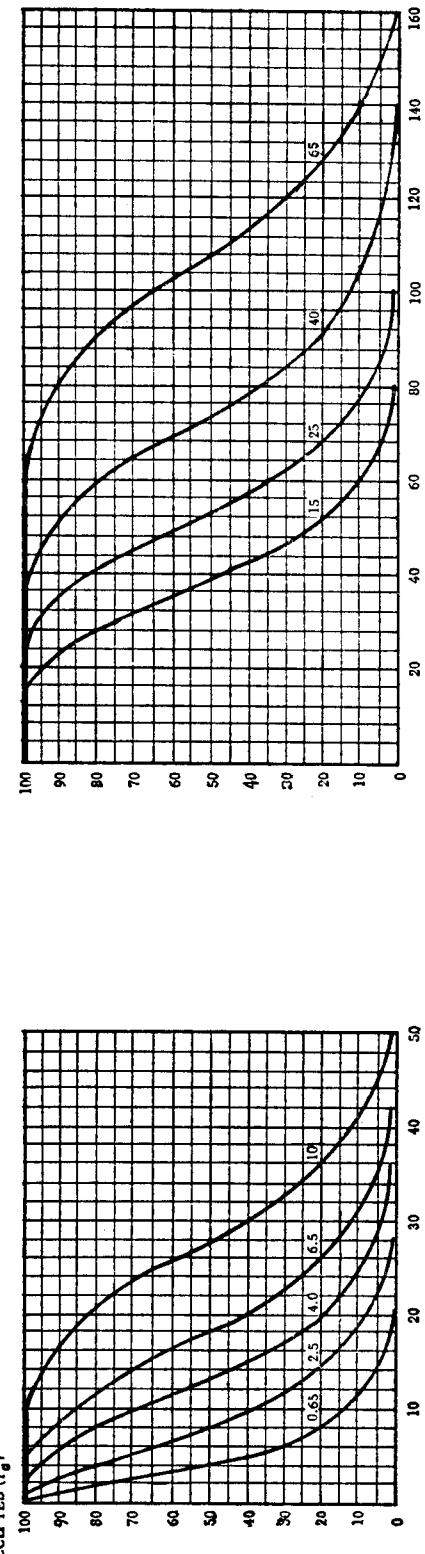
# = Acceptance not permitted at this sample size.



TABLE X-F — Tables for sample size code letter : F

**CHART F - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)

QUALITY OF SUBMITTED LOTS (p, in percent defective for AQL's  $\leq 10$ ; in defects per hundred units for AQL's  $> 10$ )

Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-F-1 — Tabulated values for operating characteristic curves for single sampling plans

P <sub>a</sub>	Acceptable Quality Levels (normal inspection)										Acceptable Quality Levels (tightened inspection)						
	0.65	2.5	4.0	6.5	10	0.65	2.5	4.0	6.5	10	15	25	40	65			
p (in defects per hundred units)																	
99.0	0.050	0.75	2.25	4.31	9.75	0.051	0.75	2.18	4.12	8.92	14.5	17.5	23.9	30.5	37.4	51.7	62.9
95.0	0.256	1.80	4.22	7.13	14.0	0.257	1.78	4.09	6.83	13.1	19.9	23.5	30.8	38.5	46.2	62.2	74.5
90.0	0.525	2.69	5.64	9.03	16.6	0.527	2.66	5.51	8.73	15.8	23.3	27.2	35.1	43.2	51.5	68.4	81.2
75.0	1.43	4.81	8.70	12.8	21.6	1.44	4.81	8.68	12.7	21.1	29.8	34.2	43.1	52.1	61.2	79.5	93.4
50.0	3.41	8.25	13.1	18.1	27.9	3.47	8.39	13.4	18.4	28.4	38.3	43.3	53.3	63.3	73.3	93.3	108
25.0	6.70	12.9	18.7	24.2	34.8	6.93	13.5	19.6	25.5	37.1	48.4	54.0	65.1	76.1	87.0	109	125
10.0	10.9	18.1	24.5	30.4	41.5	11.5	19.5	26.6	33.4	46.4	58.9	65.0	77.0	88.9	101	124	141
5.0	13.9	21.6	28.3	34.4	45.6	15.0	23.7	31.5	38.8	52.6	65.7	72.2	84.8	97.2	109	133	151
1.0	20.6	28.9	35.6	42.0	53.4	23.0	33.2	42.0	50.2	65.5	80.0	87.0	101	114	127	153	172
	1.0	4.0	6.5	10	10	1.0	4.0	6.5	10	15	25	25	40	40	65		

Note: Binomial distribution used for percent defective computations; Poisson for defects per hundred units.

TABLE X-F-2 – Sampling plans for sample size code letter : F

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)														Cumulative sample size higher than 65	
		Less than 0.65	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65				
Single	20	▽	0	1	Use	Use	Use	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re
Double	13	▽	*	Letter	Letter	Letter	Letter	0	2	0	3	1	4	2	5	3	7
	26			E	H	G		1	2	3	4	4	5	6	7	8	9
	5	▽	*					#	2	#	3	#	4	0	4	0	5
	10							#	2	0	3	0	3	1	5	1	6
	15							0	2	0	3	1	4	2	6	3	8
	20							0	3	1	4	2	5	3	7	5	10
	25							1	3	2	4	3	6	5	8	7	11
	30							1	3	3	5	4	6	7	9	10	12
	35							2	3	4	5	6	7	9	10	13	14
	Less than 1.0								1.0	1.5	2.5	4.0	6.5	10	15	25	40
																	65
																	Higher than 65

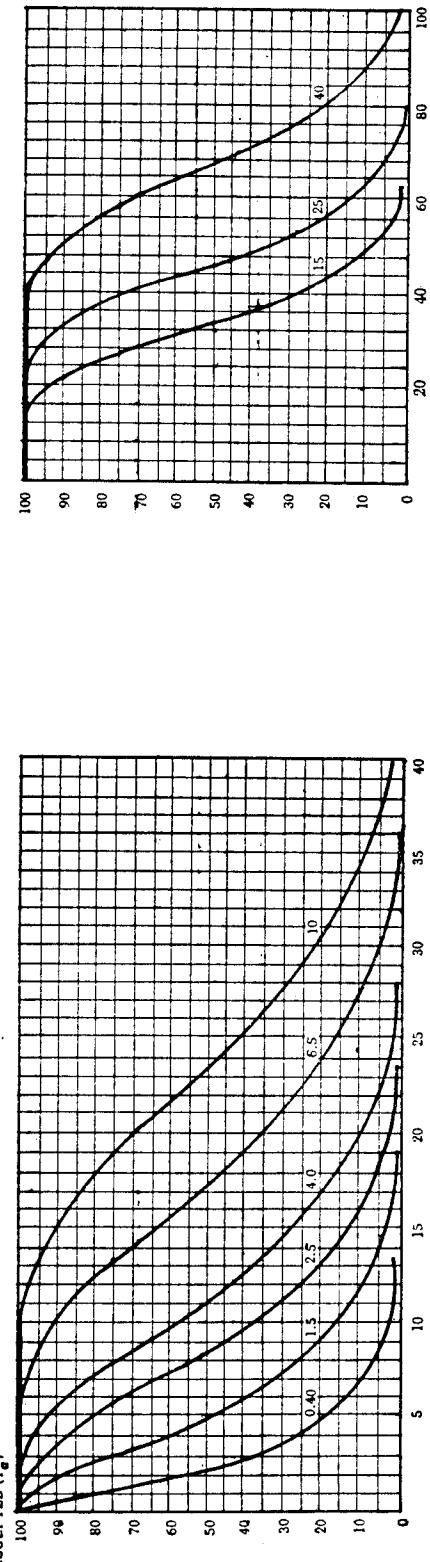
Acceptable Quality Levels (tightened inspection)

- △ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.  
 ▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.  
 Ac = Acceptance number  
 Re = Rejection number  
 \* = Use single sampling plan above (or alternatively use letter J).  
 # = Acceptance not permitted at this sample size.

TABLE X-G — Tables for sample size code letter : G

**CHART G - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)



Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-G-1 — Tabulated values for operating characteristic curves for single sampling plans

P <sub>a</sub>	Acceptable Quality Levels (normal inspection)										Acceptable Quality Levels (tightened inspection)							
	0.40	1.5	2.5	4.0	6.5	10	0.40	1.5	2.5	4.0	6.5	10	15	25	40			
99.0	0.032	0.475	1.38	2.63	5.94	9.75	0.032	0.466	1.36	2.57	5.57	9.08	11.0	14.9	19.1	23.4	32.3	39.3
95.0	0.161	1.13	2.59	4.39	8.50	13.1	0.160	1.10	2.55	4.26	8.16	12.4	14.7	19.3	24.0	28.9	38.9	46.5
90.0	0.329	1.67	3.50	5.56	10.2	15.1	0.328	1.66	3.44	5.45	9.85	14.6	17.0	21.9	27.0	32.2	42.7	50.8
75.0	0.895	3.01	5.42	7.98	13.4	19.0	0.900	3.00	5.39	7.92	13.2	18.6	21.4	26.9	32.6	38.2	49.7	58.4
50.0	2.14	5.19	8.27	11.4	17.5	23.7	2.16	5.24	8.35	11.5	17.7	24.0	27.1	33.3	39.6	45.8	58.3	67.7
25.0	4.23	8.19	11.9	15.4	22.3	29.0	4.33	8.41	12.3	16.0	23.2	30.3	33.8	40.7	47.6	54.4	67.9	78.0
10.0	6.94	11.6	15.8	19.7	27.1	34.1	7.19	12.2	16.6	20.9	29.0	36.8	40.6	48.1	55.6	62.9	77.4	88.1
5.0	8.94	14.0	18.4	22.5	30.1	37.2	9.36	14.8	19.7	24.2	32.9	41.1	45.1	53.0	60.8	68.4	83.4	91.5
1.0	13.5	19.0	23.7	28.0	35.9	43.3	14.4	20.7	26.3	31.4	41.0	50.0	54.4	63.0	71.3	79.5	95.6	107
0.65	2.5	4.0	6.5	10	15	25	0.65	2.5	4.0	6.5	10	15	25	40	X	X	X	

Note : Binomial distribution used for percent defective computations; Poisson for defects per hundred units.

TABLE X-G-2 — Sampling plans for sample size code letter : G

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)														Cumulative sample size															
		Less than 0.40	0.40	0.65	X	1.0	1.5	2.5	4.0	6.5	10	X	15	X	25	X	40	Higher than 40													
Single	32	▽	0	1		1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	△	32				
Double	20	▽	*		Use	Use	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	△	20	
Multiple	40		*	Letter	Letter	1	2	3	4	4	5	6	7	8	9	11	12	12	13	15	16	18	19	23	24	26	27	40			
	8	▽	*			#	2	#	2	#	3	#	4	0	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	△	8
	16		*			#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14			16	
	24		*			0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19			24	
	32		*			0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25			32	
	40		*			1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	29			40		
	48		*			1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	31			48		
	56		*			2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37			56		
						Less than 0.65	0.65	X	1.0	1.5	2.5	4.0	6.5	10	X	15	X	25	X	40	X							Higher than 40			

Acceptable Quality Levels (tightened inspection)

△ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.

▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number.

Re = Rejection number.

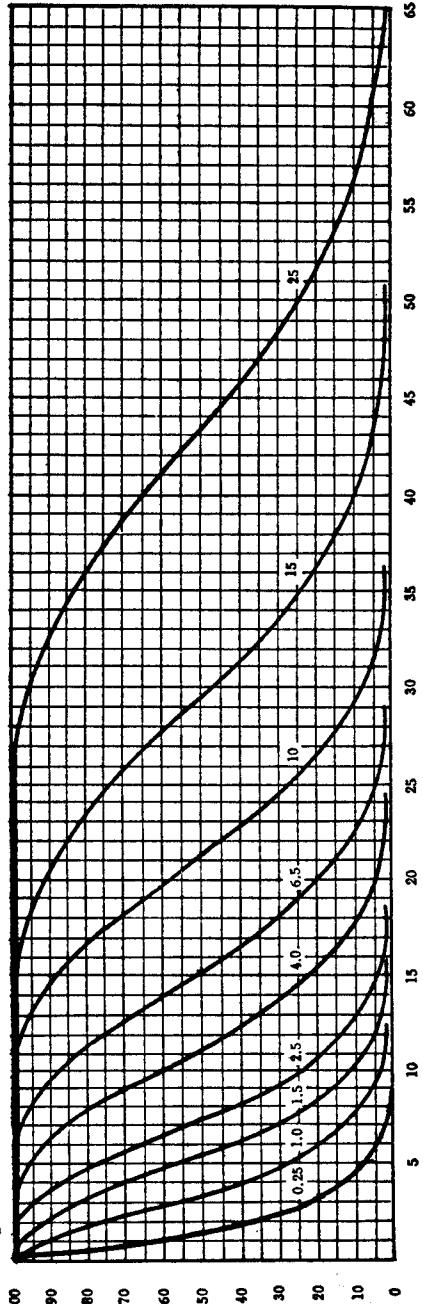
\* = Use single sampling plan above (or alternatively use letter K).

+ = Acceptance not permitted at this sample size.

TABLE X-H – Tables for sample size code letter : H

## CHART H - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS

(Curves for double and multiple sampling are matched as closely as practicable)  
PERCENT OF LOTS EXPECTED TO BE ACCEPTED ( $P_A$ )



Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-H-1 – Tabulated values for operating characteristic curves for single sampling plans

$P_A$	Acceptable Quality Levels (normal inspection)												Acceptable Quality Levels (tightened inspection)							
	0.25	1.0	1.5	2.5	4.0	6.5	> 10	0.25	1.0	1.5	2.5	4.0	6.5	> 10	15	25				
99.0	0.020	0.306	0.888	1.69	3.66	6.06	7.41	11.1	0.020	0.298	0.872	1.65	3.57	5.81	7.01	9.54	12.2	15.0	20.7	25.1
95.0	0.103	0.712	1.66	2.77	5.34	8.20	9.74	12.9	0.103	0.710	1.64	2.73	5.23	7.96	9.39	12.3	15.4	18.5	24.9	29.8
90.0	0.210	1.07	2.23	3.54	6.42	9.53	11.2	14.5	0.210	1.06	2.20	3.49	6.30	9.31	10.9	14.0	17.3	20.6	27.3	32.5
75.0	0.574	1.92	3.46	5.09	8.51	12.0	13.8	17.5	0.576	1.92	3.45	5.07	8.44	11.9	13.7	17.2	20.8	24.5	31.8	37.4
50.0	1.38	3.33	5.31	7.30	11.3	15.2	17.2	21.2	1.39	3.36	5.35	7.34	11.3	15.3	17.3	21.6	25.3	29.3	37.3	43.3
25.0	2.74	5.30	7.70	10.0	14.5	18.8	21.0	25.2	2.77	5.39	7.84	10.2	14.8	19.4	21.6	25.0	30.4	34.8	43.5	49.9
10.0	4.50	7.56	10.3	12.9	17.8	22.4	24.7	29.1	4.61	7.78	10.6	13.4	18.6	23.5	26.0	30.8	35.6	40.3	49.5	56.4
5.0	5.02	9.13	12.1	14.8	19.9	24.7	27.0	31.6	5.99	9.49	12.6	15.5	21.0	26.3	28.9	33.9	38.9	43.8	53.4	60.5
1.0	8.80	12.5	15.9	18.8	24.3	29.2	31.7	36.3	9.21	13.3	16.8	20.1	26.2	32.0	34.8	40.3	45.6	50.9	61.1	68.7
0.48	1.5	2.5	4.0	6.5	> 10	10	15	20	0.40	1.5	2.5	4.0	6.5	> 10	15	25	> 25	> 25	> 25	

Note: Binomial distribution used for percent defective computation:  $P_A = \sum_{k=0}^{n-p} \binom{n}{k} p^k (1-p)^{n-k}$

TABLE X-H-2 – Sampling plans for sample size code letter : H

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)														Cumulative sample size															
		Less than 0.25	0.25	0.40	X	0.65	1.0	1.5	2.5	4.0	6.5	X	10	X	15	X	Higher than 25														
Single	50	▽	0	1			1	2	3	4	5	6	7	8	8	9	10	11	12	13	14	15	18	19	21	22	△	50			
Double	32	▽	*		Use	Use	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	△	32	
	64			Letter	Letter	Letter	1	2	3	4	5	6	7	8	9	11	12	12	13	15	16	18	19	23	24	26	27	64			
	13	▽	*		G	K	J	#	2	#	2	#	3	#	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	△	13
	26				#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14			26		
	39				0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19			39		
	52				0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25			52		
	65				1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	29			65			
	78				1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	31	33			78		
	91				2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37	38			91		
		Less than 0.40			X	0.65	1.0	1.5	2.5	4.0	6.5	X	10	X	15	X	25	X	Higher than 25												

## Acceptable Quality Levels (tightened inspection)

- △ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.  
 ▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.  
 Ac = Acceptance number  
 Re = Rejection number  
 \* = Use single sampling plan above (or alternatively use letter L).  
 # = Acceptance not permitted at this sample size.



TABLE X-J – Tables for sample size code letter : J

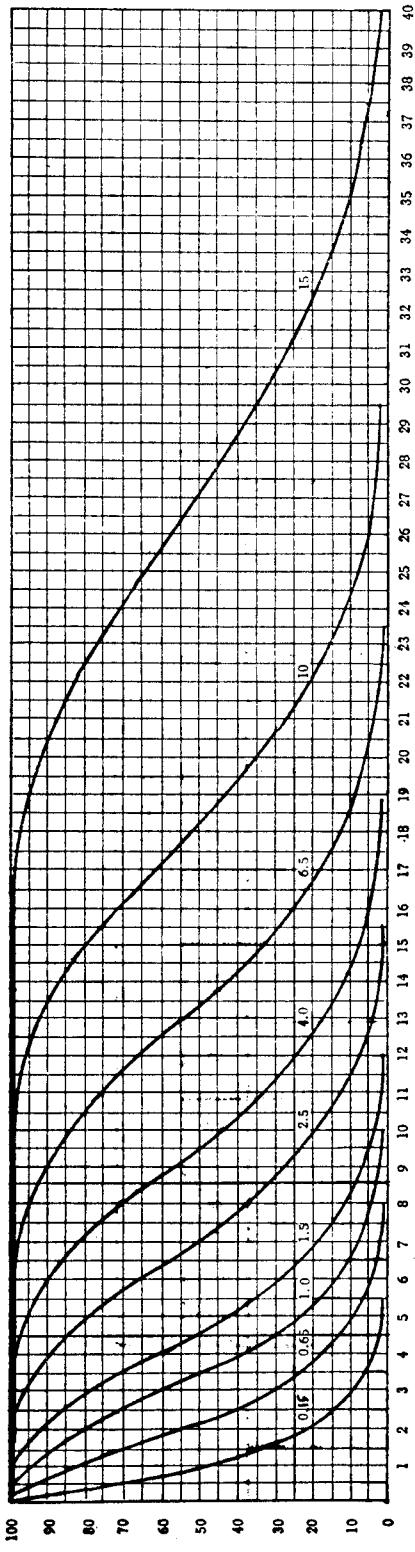
**CHART J – OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**(Curves for double and multiple sampling are matched as closely as practicable)  
PERCENT OF LOTS EXPECTED TO BE ACCEPTED ( $P_a$ )Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.  
QUALITY OF SUBMITTED LOTS (p, in percent defective for AQL's < 10; in defects per hundred units for AQL's > 10)

TABLE X-J-1 – Tabulated values for operating characteristic curves for single sampling plans

$P_a$	Acceptable Quality Levels (normal inspection)												p (in defects per hundred units)								
	0.15	0.65	1.0	1.5	2.5	4.0	6.5	10	0.15	0.65	1.0	1.5	2.5	4.0	6.5	10	15				
99.0	0.013	0.188	0.550	1.05	2.30	3.72	4.50	6.13	7.88	9.75	0.013	0.186	0.545	1.03	2.23	3.63	4.38	9.35	12.9	15.7	
95.0	0.064	0.444	1.03	1.73	3.32	5.06	5.98	7.91	9.89	11.9	0.064	0.444	1.02	1.71	3.27	4.98	5.87	7.71	9.61	11.6	15.6
90.0	0.132	0.666	1.38	2.20	3.98	5.91	6.91	8.95	11.0	13.2	0.131	0.665	1.38	2.18	3.94	5.82	6.79	8.78	10.8	12.9	17.1
75.0	0.359	1.202	2.16	3.18	5.30	7.50	8.62	10.9	13.2	15.5	0.360	1.20	2.16	3.17	5.27	7.45	8.55	10.8	13.0	15.3	19.9
50.0	0.863	2.09	3.33	4.57	7.06	9.55	10.8	13.3	15.8	18.3	0.866	2.10	3.34	4.59	7.09	9.59	10.8	13.3	15.8	18.3	23.3
25.0	1.72	3.33	4.84	6.31	9.14	11.9	13.3	16.0	18.6	21.3	1.73	3.37	4.90	6.39	9.28	12.1	13.5	16.3	19.0	21.8	27.2
10.0	2.84	4.78	6.52	8.16	11.3	14.2	15.7	18.6	21.4	24.2	2.88	4.86	6.65	8.35	11.6	14.7	16.2	19.3	22.2	25.2	30.9
5.0	3.68	5.80	7.66	9.39	12.7	15.8	17.3	20.3	23.2	26.0	3.75	5.93	7.87	9.69	13.1	16.4	18.0	21.2	24.3	27.4	33.4
1.0	5.59	8.00	10.1	12.0	15.6	18.9	20.5	23.6	26.5	29.5	5.76	8.30	10.5	12.6	16.4	20.0	21.8	25.2	28.5	31.8	36.2
0.25	1.0	1.5	2.5	4.0	6.5	10	15	2.25	1.0	1.5	2.5	4.0	6.5	10	15	15	15	15	15	15	

Acceptable Quality Levels (tightened inspection)

Note: Binomial distribution used for percent defective computations; Poisson for defects per hundred units.

TABLE X-J-2 — Sampling plans for sample size code letter : J

Type of sampling plan		Cumulative sample size		Acceptable Quality Levels (normal inspection)												Cumulative sample size															
				Less than 0.15	0.15	0.25	<del>X</del>	0.40	>	0.65	1.0	1.5	2.5	4.0	<del>X</del>	6.5	<del>X</del>	10	Higher than 15												
Single	80	$\nabla$	0	1	Use	Use	Use	1	2	2	3	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	$\Delta$	80	
Double	50	$\nabla$	*	Letter	Letter	Letter	Letter	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	$\Delta$	50
Double	100	$\nabla$	*	Letter	Letter	Letter	Letter	1	2	3	4	4	5	6	7	8	9	11	12	12	13	15	16	18	19	23	24	26	27	100	
Multiple	20	$\nabla$	*	H	L	K		#	2	*	2	*	3	*	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	$\Delta$	20
Multiple	40	$\nabla$	*	H	L	K		*	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14	$\Delta$	40
Multiple	60	$\nabla$	*	H	L	K		0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19	$\Delta$	60
Multiple	80	$\nabla$	*	H	L	K		0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25	$\Delta$	80
Multiple	100	$\nabla$	*	H	L	K		1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	29	$\Delta$	100	
Multiple	120	$\nabla$	*	H	L	K		1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	31	33	$\Delta$	120
Multiple	140	$\nabla$	*	H	L	K		2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37	38	$\Delta$	140
		Less than 0.25	0.25	<del>X</del>	0.40	0.65	1.0	1.5	2.5	4.0	<del>X</del>	6.5	<del>X</del>	10	<del>X</del>	15	<del>X</del>	15	<del>X</del>	Higher than 15											

Acceptable Quality Levels (tightened inspection)

 $\Delta$  = Use next preceding sample size code letter for which acceptance and rejection numbers are available. $\nabla$  = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number

Re = Rejection number

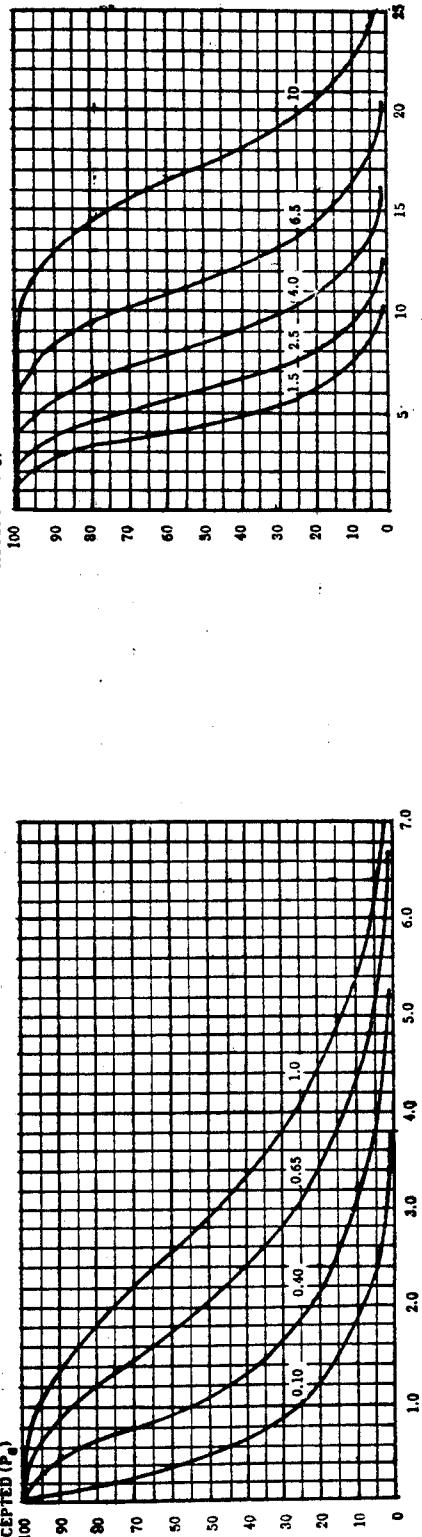
\* = Use single sampling plan above (or alternatively use letter M)

\* = Acceptance not permitted at this sample size.

TABLE X-K – Tables for sample size code letter : K

**CHART K - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)

PERCENT OF LOTS EXPECTED TO BE ACCEPTED ( $P_a$ )

Note: Figures on curves are Acceptable Quality Levels ('AQL's) for normal inspection.

TABLE X-K-1 – Tabulated values for operating characteristic curves for single sampling plans

$P_a$	Acceptable Quality Levels (normal inspection)								
	0.10	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10
P (in percent defective or defects per hundred units)									
99.0	0.0081	0.119	0.349	0.658	1.43	2.33	2.81	3.82	4.88
95.0	0.0410	0.284	0.654	1.09	2.09	3.19	3.76	4.94	6.15
90.0	0.0840	0.426	0.882	1.40	2.52	3.73	4.35	5.62	6.92
75.0	0.230	0.769	1.382	2.03	3.38	4.77	5.47	6.90	8.34
50.0	0.554	1.34	2.14	2.94	4.54	6.14	6.94	8.53	10.1
25.0	1.11	2.15	3.14	4.09	5.94	7.75	8.64	10.4	12.2
10.0	1.84	3.11	4.26	5.35	7.42	9.42	10.4	12.3	14.2
5.0	2.40	3.80	5.04	6.20	8.41	10.5	11.5	13.6	15.6
1.0	3.68	5.31	6.73	8.04	10.5	12.8	13.9	16.1	18.3
0.15	0.65	1.0	1.5	2.5	4.0	6.5	10	X	X

Acceptable Quality Levels (tightened inspection)

Note: All values given in above table based on Poisson distribution as an approximation to the Binomial.

TABLE X-K-2 – Sampling plans for sample size code letter : K

		Acceptable Quality Levels (normal inspection)													
Type of sampling plan	Cumulative sample size	Less than 0.10	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	Higher than 10	
Single	125	▽	0	1	Use	Use	Use	1	2	2	3	3	4	5	6
Double	80	▽	*	Letter	Letter	Letter	Letter	0	2	0	3	1	4	2	5
	160			J	M	L		1	2	3	4	5	6	7	8
	32	▽	*					#	2	#	3	#	4	0	4
	64							*	2	0	3	1	5	1	6
	96							0	2	0	3	1	4	2	6
	128							0	3	1	4	2	5	3	7
	160							0	3	1	4	2	5	3	7
	192							1	3	2	4	3	6	5	8
	224							1	3	3	5	4	6	7	9
	Less than 0.13	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	10	10	10	10	10

Acceptable Quality Levels (tightened inspection)

△ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.

▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number

Re = Rejection number

\* = Use single sampling plan above (or alternatively use letter N).

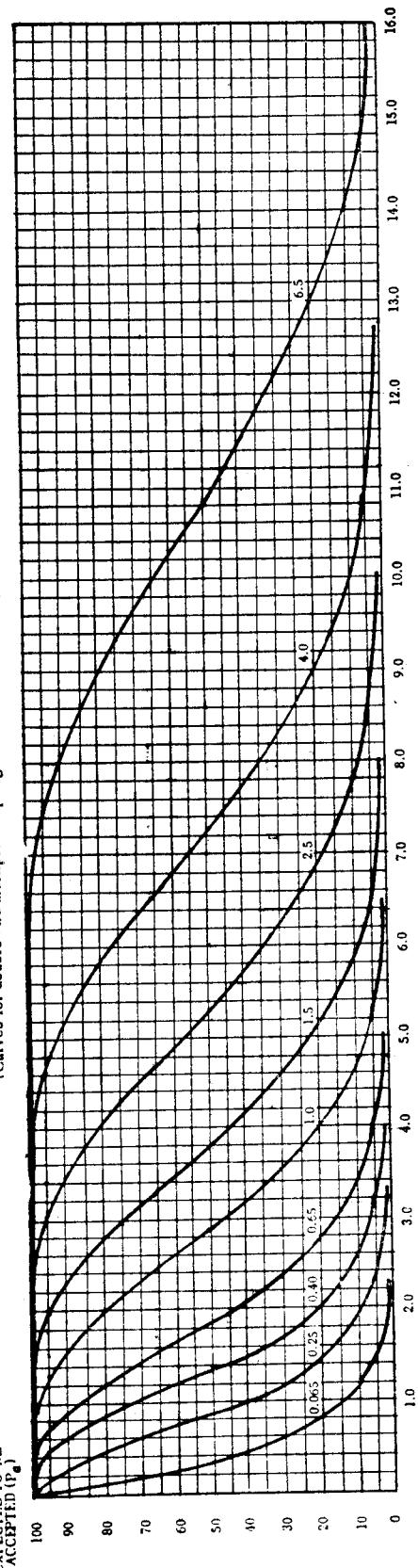
# = Acceptance not permitted at this sample size.



TABLE X-L — Tables for sample size code letter : L

## CHART L - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS

(Curves for double and multiple sampling are matched as closely as practicable)

QUALITY OF SUBMITTED LOTS (p, in percent defective for AQL's  $\leq 10$ ; in defects per hundred units for AQL's  $> 10$ )

Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-L-1 — Tabulated values for operating characteristic curves for single sampling plans

$P_a$	Acceptable Quality Levels (normal inspection)											
	0.065	0.25	0.40	0.65	1.0	1.5	2.5	4.0				
p (in percent defective or defects per hundred units)												
99.0	0.0051	0.075	0.218	0.412	0.893	1.45	1.75	2.39	3.05	3.74	5.17	6.29
95.0	0.0256	0.178	0.409	0.683	1.31	1.99	2.35	3.09	3.85	4.62	6.22	7.45
90.0	0.0525	0.266	0.551	0.873	1.58	2.33	2.72	3.51	4.32	5.15	6.84	8.12
75.0	0.144	0.481	0.864	1.27	2.11	2.98	3.42	4.31	5.21	6.12	7.95	9.34
50.0	0.347	0.839	1.34	1.84	2.84	3.84	4.33	5.33	6.33	7.33	9.33	10.8
25.0	0.693	1.35	1.96	2.56	3.71	4.84	5.40	6.51	7.61	8.70	10.9	12.5
10.0	1.15	1.95	2.66	3.34	4.64	5.89	6.50	7.70	8.89	10.1	12.4	14.1
5.0	1.50	2.37	3.15	3.88	5.26	6.57	7.22	8.48	9.72	10.9	13.3	15.1
1.0	2.30	3.32	4.20	5.02	6.55	8.00	8.70	10.1	11.4	12.7	15.3	17.2
-0.10	-0.40	0.65	1.0	1.5	X	2.5	X	4.0	X	6.5	X	

Acceptable Quality Levels (tightened inspection)

Note: All values given in above table based on Poisson distribution as an approximation to the Binomial.

TABLE XL2—Sampling plans for sample size code letter : L

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)																		Cumulative sample size higher than 6.5											
		Less than 0.065	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	6.5	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re						
Single	200	▽	0	1				1	2	3	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	△	200		
Double	125	▽	*					0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	△	125
	250	▽	*					1	2	3	4	4	5	6	7	8	9	11	12	12	13	15	16	18	19	23	24	26	27	250	
Multiple	50	▽	*					#	2	#	2	#	3	#	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	△	50
	100	▽	*					#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14	100	
	150	▽	*					0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19	150	
	200	▽	*					0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25	200	
	250	▽	*					1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	25	29	250	
	300	▽	*					1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	31	33	300	
	350	▽	*					2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	32	33	37	38	350		
								Less than 0.10	0.10	▽	0.15	0.25	0.40	0.65	1.0	1.5	2.5	2.5	2.5	4.0	4.0	4.0	4.0	4.0	4.0	Higher than 6.5					

Acceptable Quality Levels (tightened inspection)

△ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.

▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number

Re = Rejection number

\* = Use single sampling plan above (or alternatively use letter P).

# = Acceptance not permitted at this sample size.

TABLE X-M — Tables for sample size code letter : M

**CHART M - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

PERCENT OF LOTS  
EXPECTED TO BE  
ACCEPTED ( $P_a$ )  
(Curves for double and multiple sampling are matched as closely as practicable)

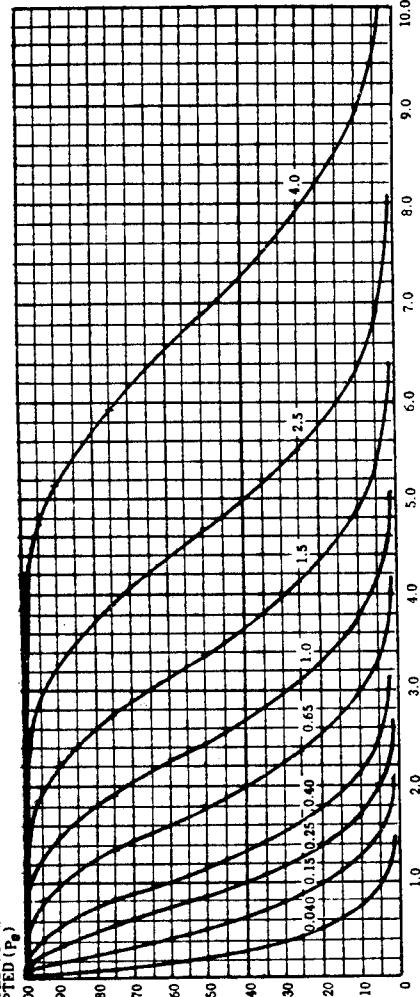
QUALITY OF SUBMITTED LOTS ( $p$ , in percent defective for  $AQL's \leq 10$ )Note: Figures on curves are Acceptable Quality Levels ( $AQL's$ ) for normal inspection.

TABLE X-M-1 — Tabulated values for operating characteristic curves for single sampling plans

$p_a$	Acceptable Quality Levels (normal inspection)						
	• 0.040	0.15	0.25	0.40	0.65	1.0	1.5
p (in percent defective or in defects per hundred units)							
99.0	0.0032	0.047	0.138	0.261	0.566	0.922	1.11
95.0	0.0163	0.112	0.259	0.433	0.829	1.26	1.49
90.0	0.0333	0.168	0.349	0.533	1.00	1.48	1.72
75.0	0.0914	0.305	0.580	0.804	1.34	1.89	2.17
50.0	0.220	0.532	0.848	1.17	1.80	2.43	2.75
25.0	0.440	0.854	1.24	1.62	2.36	3.07	3.43
10.0	0.731	1.23	1.69	2.12	2.94	3.74	4.13
5.0	0.951	1.51	2.00	2.46	3.34	4.17	4.58
1.0	1.46	2.11	2.67	3.19	4.16	5.08	5.53
0.065	0.25	0.40	0.65	1.0	X	1.5	X
Acceptable Quality Levels (tightened inspection)							
							X

Note: All values given in above table based on Poisson distribution as an approximation to the binomial.

TABLE X-M-2 – Sampling plans for sample size code letter : M

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)														Acceptable Quality Levels (tightened inspection)														
		Less than 0.040	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	Higher than 4.0	Cumulative sample size	Less than 0.065	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	4.0	Higher than 4.0			
Single	315	▽	0	1	Use	Use	Use	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	△	315		
Double	200	▽	*	Letter	Letter	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	△	200	
	400			L	P	N	#	2	#	2	#	3	#	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	△	400
	80	▽	*				#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14	80	
	160						0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19	160	
	240						0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25	240	
	320						1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	29	320		
	400						1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	33	400		
	480						2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37	38	480	
	560						Less than 0.065	0.065	0.10	0.15	0.25	0.40	0.65	1.0	×	1.5	×	2.5	×	4.0	×	Higher than 4.0								

△ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.  
 ▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number.  
 Re = Rejection number.

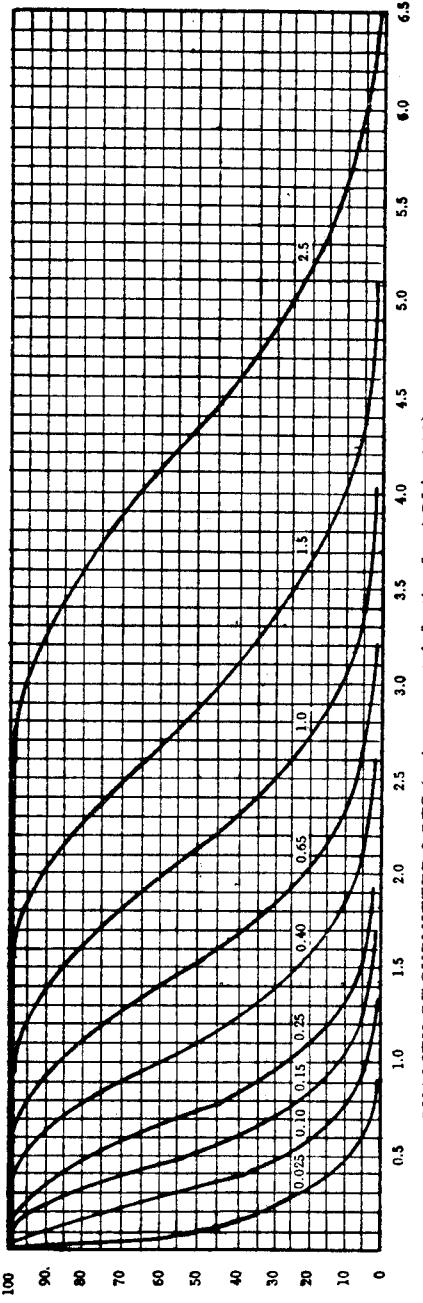
\* = Use single sampling plan above (or alternatively use letter Q).  
 # = Acceptance not permitted at this sample size.

M

TABLE X-N – Tables for sample size code letter : N

**CHART N – OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)



Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-N-1 – Tabulated values for operating characteristic curves for single sampling plans

P <sub>a</sub>	Acceptable Quality Levels (normal inspection)							P <sub>a</sub> (in percent defective or in defects per hundred units)
	0.025	0.10	0.15	0.25	0.40	0.65	1.0	
99.0	0.0020	0.030	0.087	0.165	0.357	0.581	0.701	0.954
95.0	0.0103	0.071	0.164	0.273	0.523	0.796	0.939	1.23
90.0	0.0210	0.106	0.220	0.349	0.630	0.931	1.09	1.40
75.0	0.0576	0.192	0.345	0.507	0.844	1.19	1.37	1.72
50.0	0.139	0.336	0.535	0.734	1.13	1.53	1.73	2.13
25.0	0.277	0.539	0.784	1.02	1.48	1.94	2.16	2.60
10.0	0.461	0.778	1.06	1.34	1.86	2.35	2.60	3.08
5.0	0.599	0.949	1.26	1.55	2.10	2.63	2.89	3.39
1.0	0.921	1.328	1.68	2.01	2.62	3.20	3.48	4.03
0.040	0.15	0.25	0.40	0.65	X	1.0	X	1.5
								X
								2.5

Acceptable Quality Levels (tightened inspection)

Note: All values given in above table based on Poisson distribution as an approximation to the Binomial.

TABLE X-N-2 — Sampling plans for sample size code letter : N

Type of sampling plan		Acceptable Quality Levels (normal inspection)																			Cumulative sample size											
		Less than 0.025		0.025		0.040		0.065		0.10		0.15		0.25		0.40		0.65		1.0		1.5		2.5		Higher than 2.5						
Cumulative sample size	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re						
Single	500	▽	0	1					1	2	2	3	3	4	5	6	7	8	8	9	10	11	12	13	14	15	18	19	21	22	Δ	500
Double	315	▽	*	*	Use	Use	Use	Use	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	Δ	315
	630	Letter	Letter	Letter	1	2	3	4	4	5	6	7	8	9	11	12	12	13	15	16	18	19	23	24	26	27				630		
Multiple	125	▽	*	*	M	Q	P	#	2	*	2	*	3	*	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	Δ	125	
	250	*	*	*	*	*	*	*	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14		250	
	375	*	*	*	*	*	*	*	0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19		375
	500	*	*	*	*	*	*	*	0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25		500
	625	*	*	*	*	*	*	*	1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	29		625	
	750	*	*	*	*	*	*	*	1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	31		750	
	875	*	*	*	*	*	*	*	2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37	39		875
	Less than 0.040	0.040	▽	*	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.5	Higher than 2.5																		

Acceptable Quality Levels (tightened inspection)

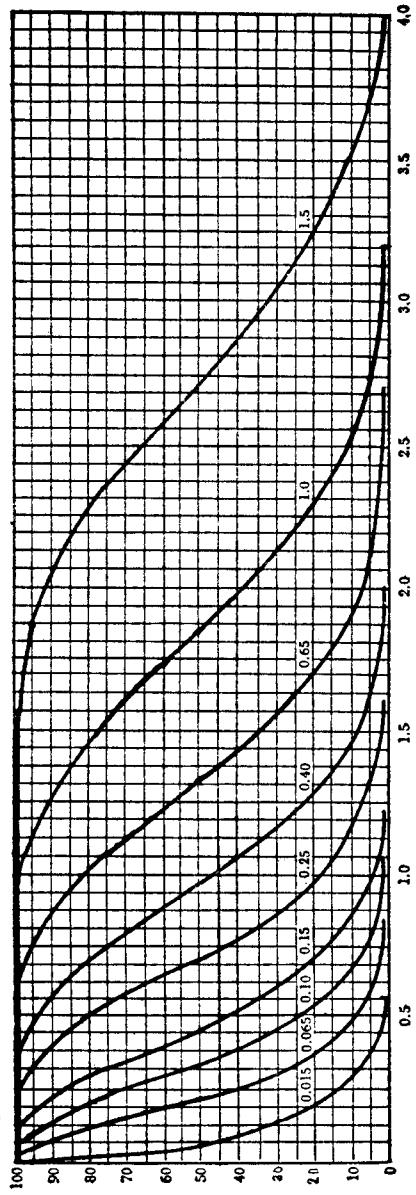
Δ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.  
 ▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number  
 Re = Rejection number  
 \* = Use single sampling plan above (or alternatively use letter R).  
 # = Acceptance not permitted at this sample size.



## CHART P - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS

PERCENT OF LOTS EXPECTED TO BE ACCEPTED ( $P_A$ )  
(Curves for double and multiple sampling are matched as closely as practicable)

QUALITY OF SUBMITTED LOTS (p, in percent defective for AQL's  $\leq 10$ )

Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-P-1 – Tabulated values for operating characteristic curves for single sampling plans

p (in percent defective or defects per hundred units)	Acceptable Quality Levels (normal inspection)											
	0.015	0.065	0.10	0.15	0.25	0.40	0.65	1.0	1.5	2.0	2.5	3.0
99.0	0.0013	0.0186	0.055	0.103	0.223	0.363	0.438	0.596	0.762	0.935	1.29	1.57
95.0	0.0064	0.0444	0.102	0.171	0.327	0.498	0.587	0.771	0.961	1.16	1.56	1.86
90.0	0.0131	0.0665	0.138	0.218	0.394	0.582	0.679	0.878	1.08	1.29	1.71	2.03
75.0	0.0360	0.120	0.216	0.317	0.527	0.745	0.855	1.08	1.30	1.53	1.99	2.34
50.0	0.0866	0.210	0.334	0.459	0.709	0.959	1.08	1.33	1.58	1.83	2.33	2.71
25.0	0.173	0.337	0.490	0.639	0.923	1.21	1.35	1.63	1.90	2.18	2.72	3.12
10.0	0.288	0.486	0.665	0.835	1.16	1.47	1.62	1.93	2.22	2.52	3.09	3.52
5.0	0.375	0.593	0.787	0.969	1.31	1.64	1.80	2.12	2.43	2.74	3.34	3.78
1.0	0.576	0.890	1.05	1.26	1.64	2.00	2.18	2.52	2.85	3.18	3.82	4.29
0.025	0.10	0.15	0.25	0.40	0.65	X	1.0	X	1.5	X	1.5	X

Acceptable Quality Levels (tightened inspection)

Note: All values given in above table based on Poisson distribution as an approximation to the Binomial.

TABLE X-P-2 – Sampling plans for sample size code letter : P

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)														Cumulative sample size																	
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	0.65	1.0	1.0	1.5																		
Single	800	△	▽	0	1	Use	Use	Use	Use	Ac	Re	Ac	Re	Ac	Re	Ac	Re																
	500	△	▽	*	Letter	Letter	Letter	Letter	Letter	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	△	800
Double	1000	△	▽	*	Letter	N	R	Q	Q	#	2	#	2	#	3	#	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	△	500
	200	△	▽	*						#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14	200	
	400									0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19	400	
	600									0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25	600	
Multiple	800									0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25	800	
	1000									1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	29	1000		
	1200									1	3	3	5	4	6	1	9	10	12	14	14	17	18	20	21	23	27	29	31	33	1200		
	1400									2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37	38	1400	
	Less than 0.025										Less than 0.025		△	▽	0.040	0.065	0.10	0.15	0.25	0.40	0.65	0.65	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5		

Acceptable Quality Levels (tightened inspection)

△ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.

▽ = Use next subsequent sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number.

Re = Rejection number.

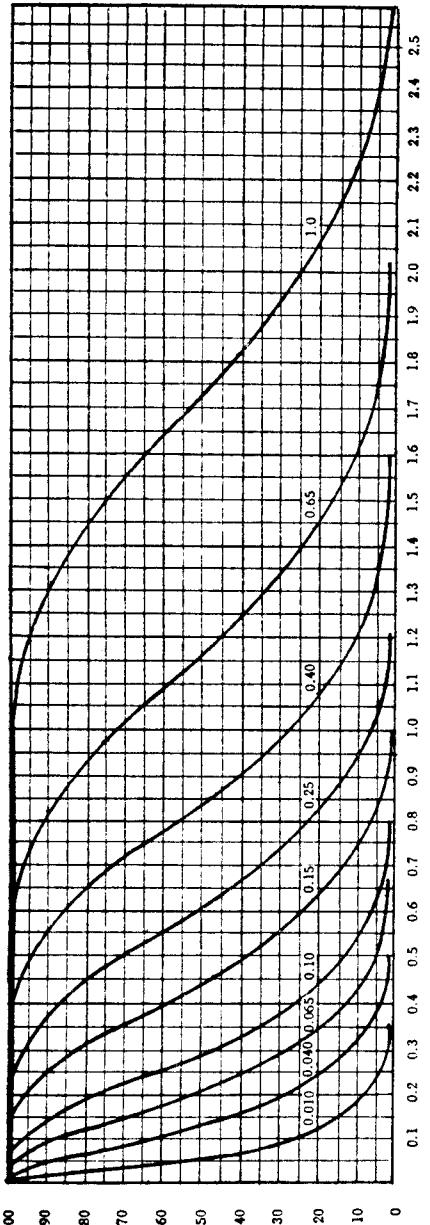
\* = Use single sampling plan above.

# = Acceptance not permitted at this sample size.

TABLE X-Q – Tables for sample size code letter : q

**CHART Q – OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)



Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection

TABLE X-Q.1 – Tabulated values for operating characteristic curves for single sampling plans

P <sub>a</sub>	Acceptable Quality Levels (normal inspection)								
	0.010	0.040	0.065	0.10	0.15	0.25	0.40	0.65	1.0
P (in percent defective or defects per hundred units)									
99.0	0.00081	0.0119	0.0349	0.0656	0.143	0.232	0.281	0.382	0.488
95.0	0.00410	0.0284	0.0654	0.109	0.209	0.318	0.376	0.494	0.615
90.0	0.00840	0.0426	0.0882	0.140	0.252	0.372	0.435	0.562	0.692
75.0	0.0230	0.0769	0.138	0.203	0.338	0.476	0.547	0.690	0.834
50.0	0.0554	0.134	0.214	0.294	0.454	0.614	0.694	0.853	1.01
25.0	0.111	0.215	0.314	0.409	0.594	0.775	0.864	1.04	1.22
10.0	0.184	0.310	0.426	0.534	0.742	0.942	1.04	1.23	1.42
5.0	0.240	0.380	0.504	0.620	0.841	1.05	1.15	1.36	1.56
1.0	0.368	0.531	0.672	0.804	1.05	1.28	1.83	1.61	1.83
0.015	0.065	0.10	0.15	0.25	0.40	0.65	0.65	0.65	X

Note: All values given in above table based on Poisson distribution as an approximation to the Binomial

TABLE XQ.2 — Sampling plans for sample size code letter : Q

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)																Cumulative sample size higher than 1.0											
		0.010		0.015		0.025		0.040		0.065		0.10		0.15		0.25		0.40											
		Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re										
Single	1250	0	1			1	2	2	3	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	Δ	1250	
Double	800	Letter	*	Letter	Letter	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	Δ	800
	1600	R	P	S	R	1	2	3	4	4	5	6	7	8	9	11	12	12	13	15	16	18	19	23	24	26	27		1600
Multiple	315	*	#	2	*	2	#	3	#	4	0	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	Δ	315	
	630		#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14				630	
	945		0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19				945	
	1260		0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25				1260	
	1575		1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	25	29				1575	
	1890		1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	29	31	33				1890	
	2205		2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37	38				2205	
	0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65	0.40	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	

Acceptable Quality Levels (tightened inspection)

Δ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.

Ac = Acceptance number

Re = Rejection number

\* = Use single sampling plan above.

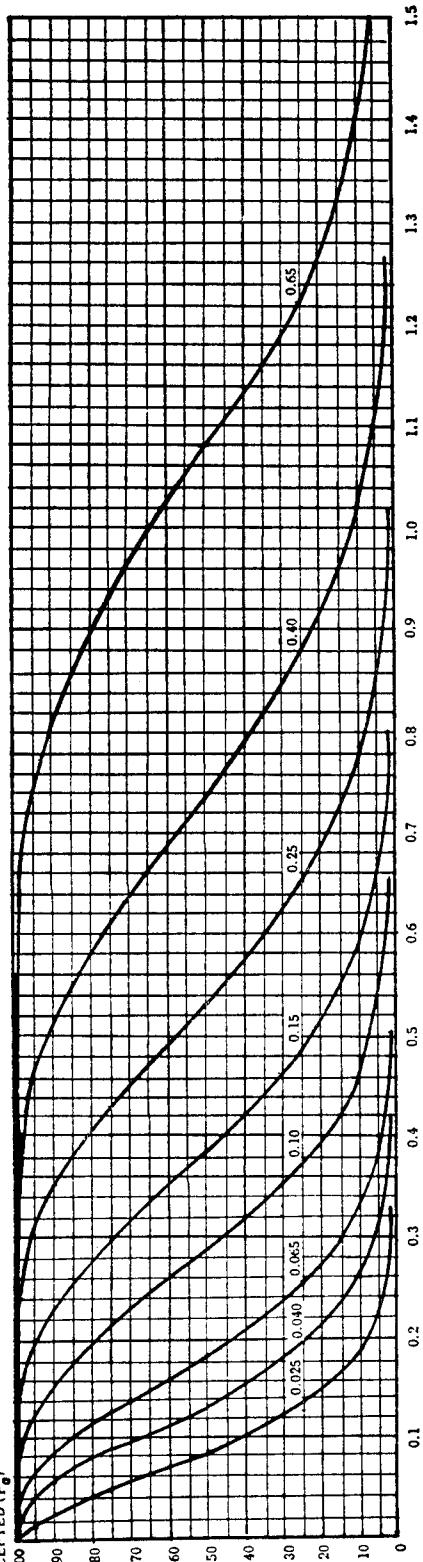
\* = Acceptance not permitted at this sample size.



TABLE X-R — Tables for sample size code letter : R

**CHART R - OPERATING CHARACTERISTIC CURVES FOR SINGLE SAMPLING PLANS**

(Curves for double and multiple sampling are matched as closely as practicable)

QUALITY OF SUBMITTED LOTS ( $p$ , in percent defective for AQL's  $\leq 10$ )

Note: Figures on curves are Acceptable Quality Levels (AQL's) for normal inspection.

TABLE X-R-1 — Tabulated values for operating characteristic curves for single sampling plans

P <sub>a</sub>	Acceptable Quality Levels (normal inspection)						Acceptable Quality Levels (tightened inspection)				
	0.025	0.040	0.065	0.10	0.15	0.25					
99.0	0.0074	0.0218	0.0412	0.0892	0.145	0.175	0.239	0.305	0.374	0.517	0.629
95.0	0.0178	0.0409	0.0683	0.131	0.199	0.235	0.309	0.385	0.462	0.622	0.745
90.0	0.0266	0.0551	0.0873	0.158	0.233	0.272	0.351	0.432	0.515	0.684	0.812
75.0	0.0481	0.0868	0.1207	0.211	0.298	0.342	0.431	0.521	0.612	0.795	0.934
50.0	0.0839	0.134	0.184	0.284	0.384	0.433	0.533	0.633	0.733	0.933	1.08
25.0	0.135	0.196	0.256	0.371	0.484	0.540	0.651	0.761	0.870	1.09	1.25
10.0	0.195	0.266	0.334	0.464	0.589	0.650	0.770	0.889	1.01	1.24	1.41
5.0	0.237	0.315	0.388	0.526	0.657	0.722	0.848	0.972	1.09	1.33	1.51
1.0	0.332	0.420	0.502	0.655	0.800	0.870	1.02	1.14	1.27	1.53	1.72
0.040	0.065	0.10	0.15	0.25	0.40	0.65	X				

Note: All values given in above table based on Poisson distribution as an approximation to the Binomial.

Note: All values given in above table based on Poisson distribution as an approximation to the Binomial.

TABLE X-R-2 — Sampling plans for sample size code letter : R

Type of sampling plan	Cumulative sample size	Acceptable Quality Levels (normal inspection)																		Cumulative sample size higher than 0.65										
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.40	0.65																			
Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re	Ac	Re											
Single	2000	0	1			1	2	2	3	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	Δ	2000		
Double	1250	*		Use	Use	Use	0	2	0	3	1	4	2	5	3	7	3	7	5	9	6	10	7	11	9	14	11	16	Δ	1250
	2500			Letter	Letter	Letter	1	2	3	4	4	5	6	7	8	9	11	12	12	13	15	16	18	19	23	24	26	27	2500	
Multiple	500			Q	P	S	#	2	#	2	#	3	#	4	0	4	0	4	0	5	0	6	1	7	1	8	2	9	Δ	500
	1000						#	2	0	3	0	3	1	5	1	6	2	7	3	8	3	9	4	10	6	12	7	14	1000	
	1500						0	2	0	3	1	4	2	6	3	8	4	9	6	10	7	12	8	13	11	17	13	19	1500	
	2000						0	3	1	4	2	5	3	7	5	10	6	11	8	13	10	15	12	17	16	22	19	25	2000	
	2500						1	3	2	4	3	6	5	8	7	11	9	12	11	15	14	17	17	20	22	25	29	2500		
	3000						1	3	3	5	4	6	7	9	10	12	12	14	14	17	18	20	21	23	27	31	33	3000		
	3500						2	3	4	5	6	7	9	10	13	14	14	15	18	19	21	22	25	26	32	33	37	30	3500	
		0.010	0.015	X			0.025	0.040	0.065	0.10	0.15	X		0.25	X		0.40	X		0.65	X		Higher than 0.65							

△ = Use next preceding sample size code letter for which acceptance and rejection numbers are available.  
 Ac = Acceptance number.  
 Re = Rejection number.  
 \* = Use single sampling plan above.  
 # = Acceptance not permitted at this sample size.



TABLE X-S — Tables for sample size code letter : S

Type of sampling plan	Cumulative sample size	Acceptable Quality Level (normal inspection)		Acceptable Quality Level (tightened inspection)
		Ac	Re	
Single	3150	1	2	
Double	2000	0	2	
	4000	1	2	
Multiple	800	*	2	
	1600	*	2	
	2400	0	2	
	3200	0	3	
	4000	1	3	
	4800	1	3	
	5600	2	3	
				0.025

Ac = Acceptance number  
 Re = Rejection number  
 \* = Acceptance not permitted at this sample size.

**INDEX OF TERMS WITH SPECIAL MEANINGS**

Term	Sub-clause
Acceptable quality level (AQL) . . . . .	4.2 and 11.1
Acceptance number . . . . .	9.4 and 10.1.1
Attributes . . . . .	1.4
Average outgoing quality (AOQ) . . . . .	11.3
Average outgoing quality limit (AOQL) . . . . .	11.4
Average sample size . . . . .	11.5
Batch . . . . .	5.1
Classification of defects . . . . .	2.1
Code letters . . . . .	9.3
Critical defect . . . . .	2.1.1
Critical defective . . . . .	2.1.1
Defect . . . . .	2.1
Defective unit . . . . .	2.2
Defects per hundred units . . . . .	3.3
Double sampling plan . . . . .	10.1.2
Inspection . . . . .	1.3
Inspection by attributes . . . . .	1.4
Inspection level . . . . .	9.2
Inspection lot or inspection batch . . . . .	5.1
Isolated lot . . . . .	11.6
Limiting quality (LQ) . . . . .	11.6
Lot . . . . .	5.1
Lot or batch size . . . . .	5.3
Major defect . . . . .	2.1.2
Major defective . . . . .	2.2.2
Minor defect . . . . .	2.1.3
Minor defective . . . . .	2.2.3
Multiple sampling plan . . . . .	10.1.3
Normal inspection . . . . .	8.1 and 8.2
Operating characteristic curve . . . . .	11.1
Original inspection . . . . .	11.2
Percent defective . . . . .	3.2
Preferred AQLs . . . . .	4.6
Process average . . . . .	11.2
Reduced inspection . . . . .	8.2 and 8.3.3 and 10.1.4
Rejection number . . . . .	10.1.1
Responsible authority . . . . .	1.1
Resubmitted lots or batches . . . . .	6.4
Sample . . . . .	7.1

<b>Sample size</b>	<b>7.1</b>
<b>Sample size code letter</b>	<b>4.1 and 9.3</b>
<b>Sampling plan</b>	<b>9.5</b>
<b>Single sampling plan.</b>	<b>10.1.1</b>
<b>Small-sample inspection</b>	<b>9.2</b>
<b>Switching procedures</b>	<b>8.3</b>
<b>Tightened inspection</b>	<b>8.2 and 8.3.1</b>
<b>Unit of product</b>	<b>1.5</b>

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