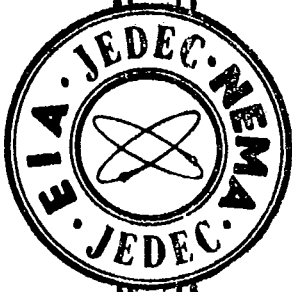


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PROPOSED ACCEPTANCE
SAMPLING PROCEDURES
FOR SMALL LOTS

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INTRODUCTION

These procedures were formulated by JEDEC Committee JT-16 on Government Liason and approved by the JEDEC Electron Tube Council. It is a revision of the 1963 publication which first expressed the application of these statistical principles. Definitions and symbology follow those of MIL-STD-105D.

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The problem of verifying the quality of small lots has loomed larger because of the implications posed by the publication of PSMR-1, sometimes referred to as the Damell report. While the approach outlined in this report was developed by an electron tube committee, the plan is perfectly general in application and can be applied wherever the small lot problem exists.

I. The Small Lot Problem

The small lot problem is identified as the problem of obtaining assurances of lot quality when lot size restrictions and possibly economic restrictions exist.

The problem is furthered aggravated if the overall cost of performing the tests is expensive (including the cost of the units tested if the test is destructive).

A lot size of 250 is used as the upper limit on the small lot problem.

II. Sampling Tables

Tables 1, 2 and 3 give percent defectives associated with probabilities of acceptance of 95% (PA(.95)) and 10% (PA(.10)) for the single sampling plans listed (acceptance number, sample size, and lot size). The tables have the following features:

1. Calculations are based upon the hypergeometric distribution (exact theory). The column for infinite lot size, based upon binomial theory, is shown for comparison purposes.
2. PA(.95) roughly corresponds to AQL in concept and PA(.10) corresponds to LTPD. That is, the percent defective associated with PA(.95) is that value of percent defective which can be considered satisfactory as a process average.
3. The sequences of sample sizes and lot sizes are generated by taking products of preceding numbers in the respective sequences and the numbers two and five.
4. The tables are arranged so that tables 1, 2 and 3 give plans associated with acceptance numbers 0, 1, and 2, respectively.

III. Sampling Plan Selection

It should be noted that acceptance numbers 0, 1, and 2 involve PA(.10)/PA(.95) ratios of approximately 45, 11, and 6.5, respectively, and represents a measure of the ability of the sampling plan to discriminate between "good" and "bad" lots.

To select a sampling plan applicable to a small lot we need to know the lot size and the desired AQL (as defined in MIL-STD-105). The tables are entered