

§ 42.141

7 CFR Ch. I (1–10 Edition)

§ 42.141 Obtaining Operating Characteristic (OC) curve information for skip lot sampling and inspection.

The Operating Characteristic (OC) curve information (probability of acceptance) for skip lot sampling and inspection procedures described in § 42.121 is easily obtained from the single curve in § 42.142. The procedure for using the curve in § 42.142 is as follows:

(a) Select any sampling plan for normal condition of container inspection from Table I or Table I-A of § 42.109.

(b) For a given Quality of Submitted Lots, 100_p , find the Percent of Lots Expected to be Accepted, P_a from the respective OC curve in § 42.140.

(c) Refer to § 42.142 with this Percent of Lots Expected to be Accepted, P_a , and read the new Percent of Lots Expected to be Accepted, P_{as} , which results when using these skip lot procedures.

For example, let's assume the lot size is 6,001 to 12,000 containers, and we use the single sampling plan of size 168 for normal inspection (Table I of § 42.109) along with an AQL for total defects of 6.5. The OC curve for this sampling plan is curve N and R3. Also, assume

that the quality of the lot is 6.5 defects per hundred units. From curve N and R3, then, the P_a is determined to be 95 percent. Then refer to the graph in § 42.142 and locate P_a of 95 percent along the horizontal axis. From this point, proceed vertically to the curve and then horizontally to the left to the vertical axis. From this point on the vertical axis, P_{as} is determined to be approximately 98¹ percent for skip lot sampling and inspection.

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¹This slight increase of P_{as} over P_a results because all the lots offered for inspection are no longer being inspected. Some lots are being "skipped", and thereby accepted, which would have been rejected if inspected. The largest increase in P_a which will occur using skip lot sampling is approximately 4 percent. It is for this reason that skip lot sampling procedures are applied only in instances where past production quality has been consistently high—as evidenced by the requirement to have 10 consecutively acceptable lots prior to a reduction in sampling rate—and where all requirements in § 42.120 also have been met.