DESIGNING OF SKIP LOT SAMPLING PLAN V WITH CONDITIONAL REPETITIVE GROUP SAMPLING PLAN (CRGS) AS REFERENCE PLAN INDEXED WITH RELATIVE SLOPES

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Abstract : This paper deals with the Procedure for optimal designing of skip lot sampling plan of type SkSP-V Conditional Repetitive Group Sampling Plan as reference plan. In this paper, operating characteristic function for SkSP-V with Conditional Repetitive Group Sampling Plan has been derived and tables are provided for the designing of probability of acceptance at various levels. The designing of parameters includes Acceptable Quality Level (p_1), Limiting Quality Level (p_2) and Indifference Quality Level (p_0) and with their relative slopes.

Keywords : Acceptable Quality Level, Indifference Quality Level, Limiting Quality Level, Relative slopes.

Introduction : Acceptance sampling tools creates a bridge between 0% and 100% inspections. For the inspection of the products, only a small amount from the products, a sample of size 'n' is selected from large amount of the products, which is also called a lot. The decision on the entire lot whether to accept or to reject depends on the information obtained from this sample size. The basic acceptance sampling plan called the single-sampling plan is widely used in industry to inspect items due to its easiness for implementation. The skip-lot sampling program can be used for reducing the amount of inspection on a product that has excellent quality history. Thus skip-lot sampling plans are designed to reduce inspection costs.

Dodge (1955) has introduced the concept of skip-lot sampling, by applying the principles of a continuous sampling plan of type CSP-1 to a series of lots or batches of material. This plan is designated as the SkSP-1 plan and is specifically applicable for bulk materials or products produced in successive lots. Perry (1970) has developed a system of sampling inspection plan known as SkSP-2. This plan involves inspection of only some fraction 'f' of the submitted lots when quality of the submitted product is good as demonstrated by the quality of the product. Suresh (1993) has given for the selection of Skip-lot Sampling Plan of type SkSP-2 with reference plans SSP(c=0) SSP(c≠0) and DSP(0,1) using consumer and producer quality levels.

Recently Balamurali (2011) has studied optimal designing of skip-lot sampling plan V with Double Sampling Plan as the reference plan. The design parameters are determined so as to minimize the average sample number while the specified producers risk and the consumers risks are satisfied.

Sherman (1965) has proposed a new type of sampling plan namely Repetitive Group Sampling (RGS) plan. The operation of the plan is similar to that of the sequential sampling plan. According to Sherman, the RGS plan gives minimum sample size as well as desired protection. Ramasamy (1983) and Kuralmani (1992) have made contributions in the construction of RGS plans. Hamaker (1950) has made elaborate studies about the slope h_0 which along with p_0 may be used to design any sampling plan.

Skip Lot Sampling Plan V : MIL-STD 1235C contains five different types of continuous sampling plans, namely CSP-1, CSP-2, CSP-F, CSP-V and CSP-T. In situations where there is no advantage of reducing the sampling frequency upon demonstration of good product quality, inspection can be streamlined by using a smaller clearance interval. This is the main feature of the CSP-V. The CSP-V plan is a single-level continuous sampling plan which provides for alternating sequences of 100% inspection and sampling inspection and requiring a shorter sequence of 100% inspection if it has been a long time since the previous 100% inspection phase. Based on the principles of CSP-V plan, a new system of skip-lot sampling plan designated as SkSP-V skip-lot sampling procedure is developed for the quality inspection of continuous flow of bulk products. The SkSP-V plan, like other skip-lot plans, has both a continuous sampling part for choosing which lots to inspect, and a lot sampling part called 'reference plan' for inspecting the chosen lots.

The Operating Procedure For Sksp-V Plan :

1) At the outset, start with normal inspection using the reference plan. During the normal inspection, lots are inspected one by one in the order of production or in the order of being submitted to inspection.
2) When i consecutive lots are accepted on normal inspection, discontinue the normal inspection and switch to skipping inspection.
3) During skipping inspection, inspect only a fraction f of the lots selected at random. Skipping inspection is continued until sampled lot is rejected.
4) When a lot is rejected on skipping inspection before k consecutively sampled lots are accepted, revert to normal inspection as per (1) above.
5) When a lot is rejected after k consecutive lots have

been accepted revert to normal inspection with reduced clearance number x as per (6) given below.

During normal inspection with clearance number x, lots are inspected one by one in the order of being submitted to inspection. This continues until either a lot is rejected or x lots are accepted, whichever occurs earlier.

When a lot is rejected, immediately revert to normal inspection with clearance number i as per (1) given above.

When x lots are accepted, discontinue normal inspection and switch to skipping inspection as per (3) above.

When a lot is rejected, perform 100% inspection (screening) and replace all the non-conforming units found with conforming units in the rejected lots in the case of non-destructive testing.

Conditional Repetitive Group Sampling (Crgs) Plan : The concept of Repetitive Group Sampling (RGS) plan was introduced by Sherman (1965) in which acceptance or rejection of a lot is based on the repeated sample results on the same lot.

Gaurishankar and Mohapatra (1984) developed a new sampling plan, which is an extension of classical Repetitive Group Sampling plan and designated as Conditional Repetitive Group Sampling plan. They observed that, the Conditional Repetitive Group Sampling plan is better in sample size efficiency than the RGS plan, and also made an attempt to model the dynamics of the Conditional Repetitive Group Sampling plans through the GERT approach which has been used by several authors for studying few quality control plans.

Operating Procedure : Following the notations similar to those of Sherman (1965), the Conditional RGS plan is carried out through the following steps:

Step 1 : Draw a random sample of size n and determine the number of defectives d found therein.

Step 2: Accept the lot, if $d \leq c_1$

Reject the lot, if $d > c_2$

Step 3 : If $c_1 < d \leq c_2$ repeat step 1,2 and 3 provided previous i lots are accepted (i.e., in each of the previous i lots $d \leq c_1$); otherwise reject the lot.

Thus the conditional RGS plans are characterized through four parameters, namely n, c_1, c_2 and acceptance criteria i. Here, it may be observed that when $c_1=c_2$ the resulting plan may reduced to single sampling plan. Also when i=0, this plan becomes RGS plan due to Sherman (1965).

Operating Characteristics Function : The performance of Conditional RGS plan can be studied from its operating characteristics curve according to Sherman (1965) the OC function of an CRGS plan is given by

$$P_a(p) = \frac{P_a}{1 - P_c P_a^i} \quad \text{Where } P_a = \sum_{x=0}^{c_1} \frac{e^{-np}(np)^x}{x!}$$

$$P_r = 1 - \sum_{x=0}^{c_2} \frac{e^{-np}(np)^x}{x!} \quad \text{and } P_c = 1 - P_a - P_r$$

The OC curve for a SkSPCRGS-V can be constructed using table 1. This can be done by dividing each entry for the given values of c_1, c_2, f, k, i, i_{crgs} by the value of sample size n. The result of each division is the number of nonconformities per unit for which the $P_a(p)$ is shown below.

For example, when n=30, c_1=1, c_2=2, f =1/5, k =1, when i=1, i_{crgs}= 3 division of each of the entries in the c_1 =1, c_2 =2 , f =1/5 , k =1 , when i= 1 , i_{crgs}= 3 of table 1 by 30 leads to the values given below.

L(p)	0.99	0.95	0.75	0.50	0.10	0.05	0.01
P	0.01857	0.03340	0.07124	0.107737	0.19107	0.21974	0.28190

Designing The Systems Given Sample Size : Table 1 can be used to design SkSPCRGS-V when the sample size is fixed at n and a point on the OC curve $[P_k, P_a(p)]$ is specified. To design a system, calculate $n_k p_k$ and under the column $P_a(p_k)$ in Table 1, find the value of np which is nearer to the desired value $n_k p_k$. Thus c_1, c_2, f, k, when i=1, i_{crgs}=3 values corresponding to the selected tabular value together with the given n_k , determine the sampling system.

For example, let n_k=50, p_k=0.02 and $P_a(p_k)$=0.95. Scan the column headed by $P_a(p_k)$ = 0.95 when i=1, i_{crgs}=3 to find the np value which is nearer to the desired value

$n_k p_k$ = 50 *0.02 = 1.00. The value is 1.0021 which corresponds to the parameters c_1 =1, c_2=2, f =1/5 , k=1, when i=1, i_{crgs}=3. The desired SkSPCRGS-V has the parameters n = 50, c_1 =1, c_2=2 , f =1/5 , k =1 , when i=1, i_{crgs}=3.

Designing The Systems Given P_1, A, P_2 And B : Table 2 can be used to design skip lot conditional repetitive group sampling system (SkSPCRGS)-V, when two points on the OC Curve (p_1, 1-α) and (p_2, β) are given. To design a SkSPCRGS-V calculate the operating ratio (OR) = p_2 /p_1. From table 2, one can determine the value of OR which is nearer to the desired ratio. Corresponding to the selected OR values of c_1, c_2, f, k, and np_1 when i = 1, i_{crgs}=3. The sample size is determined by dividing np_1 by p_1.

For example, let p_1 = 0.012, α=0.05, p_2=0.04 and β=0.10, Calculate the Operating Ratio (OR)=p_2/p_1 = 0.04 / 0.012 = 3.3333. From the Table 2 the value of OR for α = 0.05 and β = 0.10 which is the nearest to the desired ratio is 3.3792. Corresponding to this selected OR value c_1=3, c_2=5, f=1/5, k =1, and np_1 =2.6521. The sample size is obtained by n = np_1/p_1 = 2.6521/0.012=221. The desired system is SkSPCRGS-V (221; 3,5,1/5,1) when i=1, i_{crgs}=3.

Construction Of Tables

The expression for the OC function of SkSP-V plan with CRGS as reference plan is given by

$$P_a(p) = \frac{fP + (1-f)P^i + fP^{k+1}(P^i - P^k)}{f(1 + P^{i+k} - P^{2k}) + (1-f)P^i} \quad (1)$$

Here $$P_a(p) = \frac{P_a}{1 - P_c P_a^i} \quad (2)$$

is the OC function of CRGS plan as reference plan.

Under the conditions of applications for poisson model, equation (1) can be solved for np by the method of iteration for given values of f, i, k and $P_a(p)$. The operating characteristic function for SkSP-V with Conditional Repetitive Group Sampling plan (CRGS) designated as SkSPCRGS-V will be

$$P_a(f,k,i,c_1,c_2,d) = \frac{fP + (1-f)P^i + fP^{k+1}(P^i - P^k)}{f(1 + P^{i+k} - P^{2k}) + (1-f)P^i}$$

Where $P = \frac{P_a}{1 - P_c P_a^i}$ is the OC function for the reference sampling CRGS plan.

Where $$P_a = \sum_{x=0}^{c_1} \frac{e^{-np}(np)^x}{x!},$$

$$P_r = 1 - \sum_{x=0}^{c_2} \frac{e^{-np}(np)^x}{x!}, \; P_c = 1 - P_a - P_r$$

The relative slope of the OC curve is given as

$$h = -\frac{p}{P_a(p)}\left[\frac{dP_a(p)}{dp}\right] \quad \text{at } p = p_*$$

The values of relative slopes at AQL, LQL and IQL are h_1, h_2 and h_0 values, which are calculated using the np_1, np_2, np_0 values in the formulas

$$h_1 = -\frac{p_1}{P_a(p_1)}\left[\frac{dP_a(p_1)}{dp}\right],$$

$$h_2 = -\frac{p_2}{P_a(p_2)}\left[\frac{dP_a(p_2)}{dp}\right],$$

$$h_0 = -\frac{p_0}{P_a(p_0)}\left[\frac{dP_a(p_0)}{dp}\right]$$

Table – 1 : Proportion defectives against the given probability of acceptance for SkSP-V plan with CRGS plan as reference plan for i=1 and i_{crgs}=3

				Probability of Acceptance						
c_1	c_2	f	k	0.99	0.95	0.75	0.5	0.1	0.05	0.01
1	2	1/5	1	0.5571	1.0021	2.1371	3.2321	5.7321	6.5921	8.4571
1	2	1/5	1.5	0.5521	0.9871	2.1121	3.2271	5.7321	6.5921	8.4571
1	2	1/5	2	0.5521	0.9721	2.1121	3.2321	5.7321	6.5921	8.4571
1	2	1/5	2.5	0.5471	0.9671	2.1171	3.2321	5.7321	6.5921	8.4571
2	3	1/5	1	1.0971	1.7571	3.2421	4.5621	7.4071	8.3521	10.3871
2	3	1/5	1.5	1.0921	1.7321	3.2121	4.5521	7.4071	8.3521	10.3871
2	3	1/5	2	1.0871	1.7171	3.2121	4.5571	7.4071	8.3521	10.3871
2	3	1/5	2.5	1.0821	1.7071	3.2221	4.5621	7.4071	8.3521	10.3871
3	5	1/5	1	1.8521	2.6521	4.3471	5.8321	8.9621	9.9871	12.1721
3	5	1/5	1.5	1.8421	2.6221	4.3171	5.8271	8.9621	9.9871	12.1721
3	5	1/5	2	1.8371	2.6021	4.3171	5.8271	8.9621	9.9871	12.1721
3	5	1/5	2.5	1.8321	2.5921	4.3221	5.8321	8.9621	9.9871	12.1721

1	5	1/3	1	0.5321	0.8971	1.7671	2.7071	5.1471	6.0071	7.8821
1	5	1/3	1.5	0.5271	0.8871	1.7421	2.6921	5.1471	6.0071	7.8821
1	5	1/3	2	0.5271	0.8821	1.7371	2.6971	5.1471	6.0071	7.8821
1	5	1/3	2.5	0.5271	0.8721	1.7371	2.7021	5.1471	6.0071	7.8821
2	5	1/3	1	1.0971	1.6271	2.7721	3.9321	6.7471	7.7071	9.7671
2	5	1/3	1.5	1.0921	1.6121	2.7421	3.9171	6.7471	7.7071	9.7671
2	5	1/3	2	1.0921	1.6021	2.7371	3.9221	6.7471	7.7071	9.7671
2	5	1/3	2.5	1.0921	1.5971	2.7421	3.9271	6.7471	7.7071	9.7671
3	5	1/3	1	1.6721	2.3521	3.7621	5.1171	8.2521	9.2921	11.5071
3	5	1/3	1.5	1.6721	2.3371	3.7271	5.1021	8.2521	9.2921	11.5071
3	5	1/3	2	1.6671	2.3271	3.7171	5.1071	8.2521	9.2921	11.5071
3	5	1/3	2.5	1.6671	2.3171	3.7221	5.1121	8.2521	9.2921	11.5071
1	5	½	1	0.4721	0.7821	1.5071	2.3171	4.6821	5.5421	7.4271
1	5	½	1.5	0.4721	0.7771	1.4871	2.3071	4.6821	5.5421	7.4271
1	5	½	2	0.4671	0.7771	1.4821	2.3071	4.6821	5.5421	7.4271
1	5	½	2.5	0.4671	0.7721	1.4821	2.3121	4.6821	5.5421	7.4271
2	5	½	1	1.0021	1.4671	2.4421	3.4621	6.2221	7.1921	9.2721
2	5	½	1.5	1.0021	1.4621	2.4221	3.4471	6.2221	7.1921	9.2721
2	5	½	2	1.0021	1.4571	2.4121	3.4521	6.2221	7.1921	9.2721
2	5	½	2.5	0.9971	1.4521	2.4121	3.4571	6.2221	7.1921	9.2721
3	5	½	1	1.5521	2.1521	3.3621	4.5771	7.6771	8.7321	10.9771
3	5	½	1.5	1.5471	2.1421	3.3321	4.5621	7.6721	8.7321	10.9771
3	5	½	2	1.5471	2.1371	3.3221	4.5621	7.6771	8.7321	10.9771
3	5	½	2.5	1.5471	2.1321	3.3221	4.5671	7.6771	8.7321	10.9771

Table – 2 : Operating ratios at different level of producer's risk and consumer's risk for the specified SkSP-V plan with CRGS plan as the reference plan for i=1 and i_{crgs}=3

c_1	c_2	f	k	p_2/p_1 for α=0.05			p_2/p_1 for α=0.01		
				α=0.05 β=0.10	α=0.05 β=0.05	α=0.05 β=0.01	α=0.01 β=0.10	α=0.01 β=0.05	α=0.01 β=0.01
1	2	1/5	1	5.720088	6.578286	8.439377	10.28918	11.83288	15.18058
1	2	1/5	1.5	5.80701	6.678249	8.567622	10.38236	11.94005	15.31806
1	2	1/5	2	5.896616	6.781298	8.699825	10.38236	11.94005	15.31806
1	2	1/5	2.5	5.927102	6.816358	8.744804	10.47724	12.04917	15.45805
2	3	1/5	1	4.215526	4.753344	5.911502	6.751527	7.612889	9.467779
2	3	1/5	1.5	4.276370	4.821950	5.996825	6.782438	7.647743	9.511125
2	3	1/5	2	4.313727	4.864073	6.049211	6.813633	7.682918	9.554871
2	3	1/5	2.5	4.338996	4.892566	6.084646	6.845116	7.718418	9.599020
3	5	1/5	1	3.379247	3.765733	4.589608	4.838886	5.392311	6.572053
3	5	1/5	1.5	3.417909	3.808817	4.642119	4.865154	5.421584	6.607730
3	5	1/5	2	3.444180	3.838092	4.677799	4.878395	5.436340	6.625714
3	5	1/5	2.5	3.457467	3.852899	4.695845	4.891709	5.451176	6.643797

1	5	1/3	1	5.737487	6.696132	8.786200	9.673182	11.28942	14.81319
1	5	1/3	1.5	5.802164	6.771615	8.885244	9.764940	11.39651	14.95371
1	5	1/3	2	5.835053	6.809999	8.935608	9.764940	11.39651	14.95371
1	5	1/3	2.5	5.901961	6.888086	9.038069	9.764940	11.39651	14.95371
2	5	1/3	1	4.146703	4.736709	6.002766	6.149941	7.024975	8.902652
2	5	1/3	1.5	4.185286	4.780783	6.058619	6.178097	7.057138	8.943412
2	5	1/3	2	4.211410	4.810624	6.096436	6.178097	7.057138	8.943412
2	5	1/3	2.5	4.224595	4.825684	6.115522	6.178097	7.057138	8.943412
3	5	1/3	1	3.508397	3.950555	4.892266	4.935171	5.557144	6.881825
3	5	1/3	1.5	3.530914	3.975910	4.923666	4.935171	5.557144	6.881825
3	5	1/3	2	3.546087	3.992996	4.944824	4.949973	5.573811	6.902465
3	5	1/3	2.5	3.561391	4.010228	4.966165	4.949973	5.573811	6.902465
1	5	1/2	1	5.986575	7.086178	9.496356	9.917602	11.73925	15.73205
1	5	1/2	1.5	6.025093	7.131772	9.557457	9.917602	11.73925	15.73205
1	5	1/2	2	6.025093	7.131772	9.557457	10.02376	11.86491	15.90045
1	5	1/2	2.5	6.064111	7.177956	9.619350	10.02376	11.86491	15.90045
2	5	1/2	1	4.241088	4.902256	6.320019	6.209061	7.177028	9.252669
2	5	1/2	1.5	4.255591	4.919021	6.341632	6.209061	7.177028	9.252669
2	5	1/2	2	4.270194	4.935900	6.363393	6.209061	7.177028	9.252669
2	5	1/2	2.5	4.284898	4.952896	6.385304	6.240197	7.213018	9.299067
3	5	1/2	1	3.567260	4.057479	5.100646	4.946266	5.625991	7.072418
3	5	1/2	1.5	3.581579	4.076420	5.124457	4.95902	5.644173	7.095275
3	5	1/2	2	3.592298	4.085958	5.136447	4.962252	5.644173	7.095275
3	5	½	2.5	3.600722	4.095540	5.148492	4.962252	5.644173	7.095275

Designing Of Skip Lot Sampling Plan V With Conditional Repetitive Group Sampling Plan (Crgs) Indexed With Relative Slopes Of Acceptable And Limiting Quality Levels

Selection of parameters with relative slope h_1 at the Acceptable Quality Level

Table (3) is used to select the parameters for Conditional repetitive group Sampling Plan indexed with p_1 and h_1. For example, for given p_1= 0.03 and h_1 = 0.57 from Table (3) under the column headed h_1, locate the value is equal to or just greater than the desired value h_1. Corresponding to this h_1, the values of parameters associated with the relative slopes are np_1 =1.7321 , i=1, i_{crgs}=3, c_1=2, c_2= 3, f=1/5 and k=1.5. From this one can obtain the sample size as n = np_1/p_1 = 57.74≈58. Thus the parameters are n=58, i=1, i_{crgs}=3, c_1=2, c_2= 3, f=1/5 and k=1.5.

Selection of parameters with relative slope h_2 at the Limiting Quality Level

Table (3) is used to select the parameters for Conditional repetitive group Sampling Plan indexed with p_2 and h_2. For example, for given p_2 = 0.04 and h_2 = 12.03 from Table (3) under the column headed h_2, locate the value is equal to or just greater than the desired value h_2. Corresponding to this h_2, the values of parameters associated with the relative slopes are np_2=7.4071 , i=1, i_{crgs}=3, c_1=2, c_2= 3, f=1/5 and k=2.5. From this one can obtain the sample size as n = np_2/p_2 =185.18 ≈ 185. Thus the parameters are n =185, i=1, i_{crgs}=3, c_1=2, c_2= 3, f=1/5 and k=2.5.

Selection of parameters with Relative slope h_o at the Inflection Point

Table (3) is used to select the parameters for Conditional repetitive group Sampling Plan indexed with p_o and h_o. For example, for given p_o = 0.05 and h_o = 3.12 from Table (3) under the column headed h_o, locate the value is equal to or just greater than the desired value h_o. Corresponding to this h_o, the values of parameters associated with the relative slopes are np_o=2.6971 , i=1, i_{crgs}=3, c_1=1, c_2= 5, f=1/3 and k=2. From this one can obtain the sample size as n = np_o/p_o =53.94≈ 54. Thus the parameters are n =54, i=1, i_{crgs}=3, c_1=1, c_2= 5, f=1/3 and k=2.

Table – 3 : Relative slopes for Acceptable, Indifference and Limiting Quality Levels for i=1 and i_{crgs}=3

c_1	c_2	f	k	np_1	h_1	np_2	h_2	np_0	h_0
1	2	1/5	1	1.0021	0.351039	5.7321	9.761047	3.2321	3.418867
1	2	1/5	1.5	0.9871	0.345182	5.7321	9.76027	3.2271	3.389672
1	2	1/5	2	0.9721	0.337121	5.7321	9.760895	3.2321	3.405936
1	2	1/5	2.5	0.9671	0.333872	5.7321	9.761021	3.2321	3.411905
2	3	1/5	1	1.7571	0.583148	7.4071	12.02998	4.5621	4.524016
2	3	1/5	1.5	1.7321	0.571629	7.4071	12.02904	4.5521	4.477298
2	3	1/5	2	1.7171	0.563342	7.4071	12.0298	4.5571	4.495875
2	3	1/5	2.5	1.7071	0.556542	7.4071	12.02995	4.5621	4.51525
3	5	1/5	1	2.6521	0.941333	8.9621	14.05743	5.8321	5.540857
3	5	1/5	1.5	2.6221	0.931033	8.9621	14.05634	5.8271	5.500457
3	5	1/5	2	2.6021	0.92111	8.9621	14.05722	5.8271	5.508991
3	5	1/5	2.5	2.5921	0.914142	8.9621	14.05739	5.8321	5.530401
1	5	1/3	1	0.8971	0.487262	5.1471	8.82617	2.7071	3.172126
1	5	1/3	1.5	0.8871	0.479936	5.1471	8.824136	2.6921	3.109341
1	5	1/3	2	0.8821	0.475866	5.1471	8.825647	2.6971	3.122016
1	5	1/3	2.5	0.8721	0.466558	5.1471	8.826056	2.7021	3.141618
2	5	1/3	1	1.6271	0.850653	6.7471	10.99349	3.9321	4.276507
2	5	1/3	1.5	1.6121	0.838468	6.7471	10.99097	3.9171	4.201202
2	5	1/3	2	1.6021	0.829177	6.7471	10.99284	3.9221	4.215903
2	5	1/3	2.5	1.5971	0.823438	6.7471	10.99335	3.9271	4.239284
3	5	1/3	1	2.3521	1.235217	8.2521	12.9692	5.1171	5.291025
3	5	1/3	1.5	2.3371	1.224634	8.2521	12.96628	5.1021	5.204131
3	5	1/3	2	2.3271	1.215881	8.2521	12.96846	5.1071	5.220923
3	5	1/3	2.5	2.3171	1.205593	8.2521	12.96904	5.1121	5.247831
1	5	1/2	1	0.7821	0.57319	4.6821	8.114582	2.3171	3.042103
1	5	1/2	1.5	0.7771	0.564428	4.6821	8.110607	2.3071	2.976323
1	5	1/2	2	0.7771	0.561518	4.6821	8.113318	2.3071	2.972876
1	5	1/2	2.5	0.7721	0.553156	4.6821	8.114248	2.3121	2.992343
2	5	1/2	1	1.4671	1.047473	6.2221	10.21553	3.4621	4.200345
2	5	1/2	1.5	1.4621	1.035059	6.2221	10.21051	3.4471	4.104916
2	5	1/2	2	1.4571	1.023198	6.2221	10.21394	3.4521	4.111085
2	5	1/2	2.5	1.4521	1.011912	6.2221	10.21511	3.4571	4.135436
3	5	1/2	1	2.1521	1.570088	7.6771	12.1373	4.5771	5.255654
3	5	1/2	1.5	2.1421	1.550077	7.6721	12.12011	4.5621	5.141042
3	5	1/2	2	2.1371	1.53632	7.6771	12.13545	4.5621	5.137982
3	5	1/2	2.5	2.1321	1.523156	7.6771	12.13682	4.5671	5.167089

Conclusion : Acceptance sampling is the technique which deals with procedures in which decisions to accept or reject lots or processes based on the examination of sample. The work presented in this paper mainly relates to the procedure for designing and selection of tables for skip lot sampling plan of type SkSP-V with CRGS as reference plan indexed with relative slopes at Acceptable, Limiting and Indifference.

Quality Levels. Tables are provided here which are tailor-made, handy and ready-made uses to the industrial shop-floor conditions.

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