SPC & Process Capability Study Report (Attribute)

1. Process / Machine / Study Location		2. Process / Machine Reference Numbers		3. People Performing Study / Measurement	
Process Name	Process X	Process ID	Mfg. Process XYZ	Study By	Joe Smith
Machine Name	Tool A	Machine ID	Machine ABC	Measured By	Joe Smith
Study Location	Company / Site A			Operator / Shift	

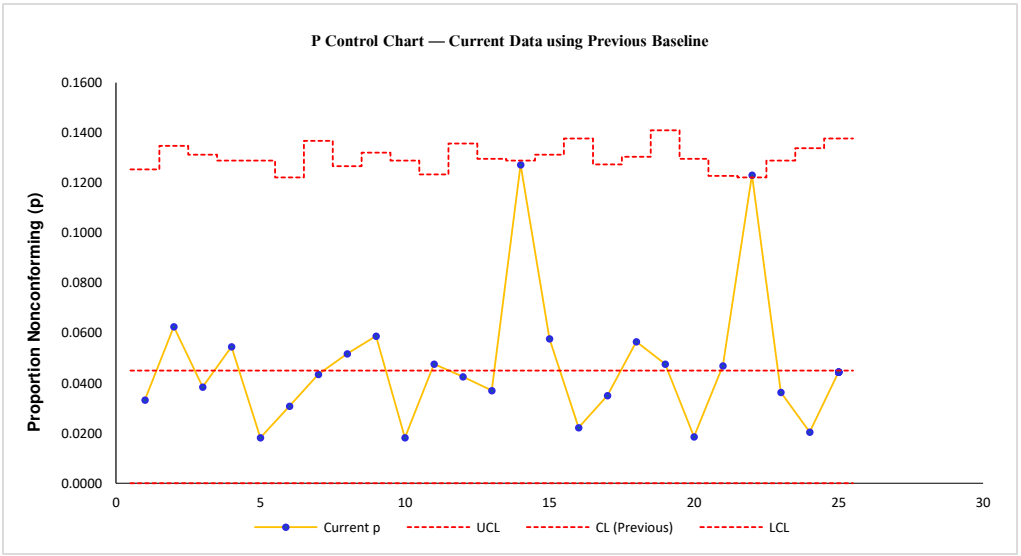
4. Data Collection Time & Duration		5. Part Name & Number		6. Characteristic / Specification Limits / Unit	
Study Date:	YEAR-MM-DD	Part Name	Widget A	Characteristic Name	WI-QC-15
Start	YYYY-MM-DD, hh:mm:ss,	Part Number	ID: 123456	Characteristic ID	-
End	YYYY-MM-DD, hh:mm:ss	ECN	00	Class.	-

6. Specification Limits:		Study Information Input Data		Study Information Input Data	
LSL		Number of	25		
SL/Target		Subgroup Size (n)	Variable		
USL		Sample Size (N)	1345		
Unit:		Sampling Strategy	Variable		

No	Date	Time	Nonconforming Unit / Nonconformity										Sum	N/n	np/c	p/u
			Short Shot	Flash	Sink Mark	Burn Mark										
1			1	0	1	0							2	60	2	0.03333
2			0	1	0	2							3	48	3	0.06250
3			1	1	0	0							2	52	2	0.03846
4			1	1	1	0							3	55	3	0.05455
5			0	0	1	0							1	55	1	0.01818
6			1	0	1	0							2	65	2	0.03077
7			0	1	1	0							2	46	2	0.04348
8			1	0	1	1							3	58	3	0.05172
9			1	1	1	0							3	51	3	0.05882
10			0	0	1	0							1	55	1	0.01818
11			1	1	1	0							3	63	3	0.04762
12			0	1	1	0							2	47	2	0.04255
13			1	0	1	0							2	54	2	0.03704
14			3	2	2	0							7	55	7	0.12727
15			1	1	1	0							3	52	3	0.05769
16			0	1	0	0							1	45	1	0.02222
17			1	0	1	0							2	57	2	0.03509
18			1	1	1	0							3	53	3	0.05660
19			0	1	1	0							2	42	2	0.04762
20			1	0	0	0							1	54	1	0.01852
21			1	1	1	0							3	64	3	0.04688
22			2	3	1	2							8	65	8	0.12308
23			1	0	1	0							2	55	2	0.03636
24			0	0	1	0							1	49	1	0.02041
25			1	0	1	0							2	45	2	0.04444
26																
27																
28																
29																
30																
													64			

Control Chart Method : P : Proportion of Nonconforming Units									
Chart / Component	Previous LCL	Previous CL	Previous UCL	Shewhart			AIAG & VDA SPC 1st		
				Current LCL	Current CL	Current UCL	Current LCL	Current CL	Current UCL
P Chart	0.000000	0.045000	0.140000	0.000000	0.045000	0.129632	**0.000000**	**0.045000**	**0.129630**

P Chart Calculation Check				Shewhart / AIAG SPC 2nd			AIAG & VDA SPC 1st			
Probability (1-α)	99.00%	Reference n	54	Previous CL (po)	0.045000	σp @ Ref. n	0.028211	α/2	0.005000	1-α/2	0.995000
α	1.00%	Sampling Strateg	Variable	Distribution	Binomial	Limit Basis	rence n; graph use	xlo	0.000000	xup	7.000000



Shewhart / AIAG SPC 2nd	
Applied	Applied
0.0000	0.1253
0.0000	0.1348
0.0000	0.1312
0.0000	0.1289
0.0000	0.1289
0.0000	0.1221
0.0000	0.1367
0.0000	0.1267
0.0000	0.1321
0.0000	0.1289
0.0000	0.1234
0.0000	0.1357
0.0000	0.1296
0.0000	0.1289
0.0000	0.1312
0.0000	0.1377
0.0000	0.1274
0.0000	0.1304
0.0000	0.1410
0.0000	0.1296
0.0000	0.1227
0.0000	0.1221
0.0000	0.1289
0.0000	0.1338
0.0000	0.1377

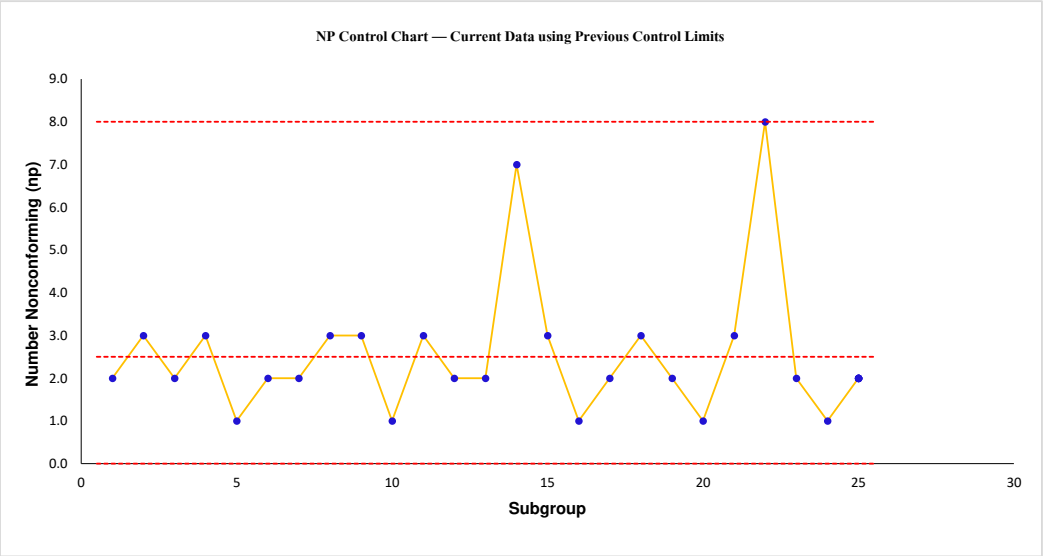
				Mode
Method	**ISO 22514-5**			**Two-Sided Attribute**
	Parameter	Value		
1	Sample N	1345		
2	pL		dL Input	
3	pU		dU Input	
4	pTotal			
	PLpk*	**PUpk***	**Pp***	Ppk*
Value				
	pL L95	**pL U95**	**pU L95**	**pU U95**
Value				
	pTotal L95	**pTotal U95**	**Ppk* L95**	Ppk* U95
Value				
	Two-Sided			
Value	gauge: dL/dU are nonconformi			

Control Chart Method : NP : Number of Nonconforming Units

Chart / Component	Previous LCL	Previous CL	Previous UCL	Shewhart Current LCL	Shewhart Current CL	Shewhart Current UCL	AIAG & VDA SPC 1st Current LCL	AIAG & VDA SPC 1st Current CL	AIAG & VDA SPC 1st Current UCL
NP Chart	0.000000	2.500000	8.000000						

NP Chart Calculation Check				Shewhart / AIAG SPC 2nd				AIAG & VDA SPC 1st			
Probability (1-α)	99.73%	Subgroup Size n		$\hat{p}$	0.047584	$n\bar{p}$	2.560000	α/2	0.001350	1-α/2	0.998650
α	0.27%	Sampling Strateg	Variable	Distribution	Binomial	Applicability	Fixed n required	xlo		xup	

Shewhart / AIAG SPC 2nd	
Applied	Applied
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000

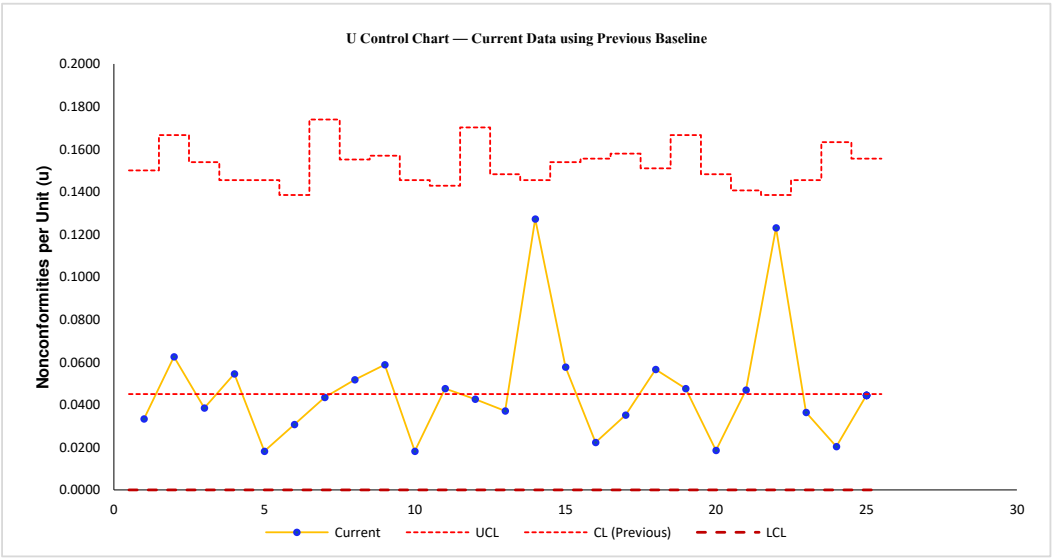


Method	ISO 22514-5		Mode: Two-Sided Attribute
	Parameter	Value	
1	Sample N	1345	
2	pL		dL Input
3	pU		dU Input
4	pTotal		
	PLpk*	PUpk*	Pp*	Ppk*
Value				
	pL L95	pL U95	pU L95	pU U95
Value				
	pTotal L95	pTotal U95	Ppk* L95	Ppk* U95
Value				
	Two-Sided			
Value	uge: dL/dU are nonconform			

Control Chart Method : U : Number of Nonconformities per Unit

Chart / Component	Previous LCL	Previous CL	Previous UCL	Shewhart Current LCL	Shewhart Current CL	Shewhart Current UCL	AIAG & VDA SPC 1st Current LCL	AIAG & VDA SPC 1st Current CL	AIAG & VDA SPC 1st Current UCL
U Chart	0.000000	0.045000	0.160000	**0.000000**	**0.047584**	**0.136638**	**0.000000**	**0.047584**	**0.166667**

U Chart Calculation Check				Shewhart / AIAG SPC 2nd				AIAG & VDA SPC 1st			
Probability (1-α)	99.73%	Reference n	54	$\bar{u}$	0.047584	$\lambda = \bar{u} \cdot n_{ref}$	2.569517	$\alpha/2$	0.001350	1-α/2	0.998650
α	0.27%	ampling Strateg	Variable	Distribution	Poisson	Limit Basis	ence n; graph us	xlo	0.000000	xup	9.000000



AIAG & VDA SPC 1st	
Applied	Applied
0.0000	0.1500
0.0000	0.1667
0.0000	0.1538
0.0000	0.1455
0.0000	0.1455
0.0000	0.1385
0.0000	0.1739
0.0000	0.1552
0.0000	0.1569
0.0000	0.1455
0.0000	0.1429
0.0000	0.1702
0.0000	0.1481
0.0000	0.1455
0.0000	0.1538
0.0000	0.1556
0.0000	0.1579
0.0000	0.1509
0.0000	0.1667
0.0000	0.1481
0.0000	0.1406
0.0000	0.1385
0.0000	0.1455
0.0000	0.1633
0.0000	0.1556

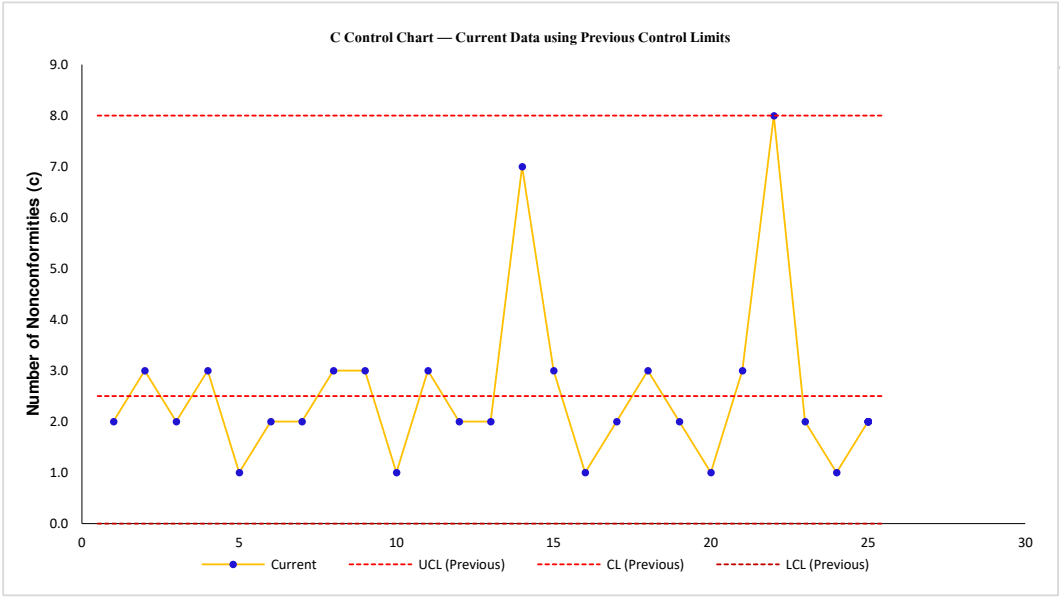
				Mode
Method	**ISO 22514-5**			**One-Sided Attribute**
	Parameter	Value		
1	Sample N	1345		
2	Count d	64.000000		
3	QP	0.047584		
4				
	z(1-QP)	**Pp***	**Ppk***	Type
Value	1.6687	N/A	0.5562	Performance
	Ppk* L95	**Ppk* U95**		
Value	0.516133	0.597006		
	u L95	**u U95**	**CI**	
Value	0.036645	0.060763	Poisson	
	Pp* Note			
Value	Need pL + pU			

Control Chart Method : C : Number of Nonconformities

Chart / Component	Previous LCL	Previous CL	Previous UCL	Shewhart Current LCL	Shewhart Current CL	Shewhart Current UCL	AIAG & VDA SPC 1st Current LCL	AIAG & VDA SPC 1st Current CL	AIAG & VDA SPC 1st Current UCL
C Chart	0.000000	2.500000	8.000000						

C Chart Calculation Check

Probability (1-α)	99.73%	Subgroup Size n		$\bar{c}$	2.560000	$\sqrt{\bar{c}}$	1.600000	α/2	0.001350	1-α/2	0.998650
α	0.27%	Sampling Strategy	Variable	Distribution	Poisson	Applicability	Fixed n required	xlo		xup	



Shewhart / AIAG SPC 2nd	
Applied	Applied
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000
0.0000	8.0000

Method	ISO 22514-5			Mode: Two-Sided Attribute
	Parameter	Value		
1	Sample N	1345		
2	pL		dL Input	
3	pU		dU Input	
4	pTotal			
	PLpk*	PUpk*	Pp*	Ppk*
Value				
	pL L95	pL U95	pU L95	pU U95
Value				
	pTotal L95	pTotal U95	Ppk* L95	Ppk* U95
Value				
	Two-Sided			
Value	L/dU are nonconforming units			