

SPC Training Topics Overview

1. Process Analysis Fundamentals

- a) Enumerative vs. Analytic Statistics.
- b) Process Variation.
 - (i) Deming's Red Bead.
- c) Benefits of Control Charts.
- d) Requirements vs. Control.
 - (i) Tampering.
- e) Control Chart Interpretation.
 - (i) Relative to Process Baseline Estimates.

2. X-Bar Charts

- a) Uses.
- b) Construction & Calculations.
- c) Assumptions.
- d) Rational Subgroups.
- e) Sampling Considerations.
- f) Interpretation.
 - (i) Run Test Rules.

3. Individuals Data

- a) Uses.
- b) Construction & Calculations.
- c) Assumptions.
- d) Sampling Considerations.
- e) Interpretation.

f) Overview of Other Individuals Charts.

(i) Run Charts.

(ii) Moving Average Charts.

(iii) EWMA Charts.

4. Process Capability

a) Histograms.

b) Probability Plots.

c) Goodness of Fit Tests.

d) Capability & Performance Indices.

(i) Relative to Process Control.

(ii) Interpretation.

(iii) Estimating Error.

5. Attribute Charts

a) Uses.

b) Selection.

c) Construction & Calculations.

d) Sampling Considerations.

6. Introduction to Regression Analysis

a) Scatter Diagrams.

b) Linear Model.

c) Interpreting the ANOVA Table.

d) Confidence & Prediction Limits.

e) Residuals Analysis.

f) Overview of Multiple Regression Tools

(i) DOE vs. Traditional Experiments & Data Mining