Capability data collection plan

Define where data will come from and what conclusions they may support before calculating indices.

Audience: Quality, engineering and process owners.

INSTRUCTIONS

1. Define the question, feature, unit, part and revision. Record specification limits and their authority; do not derive them from the sample.

2. Document measurement method, instrument, preparation and system review. Flag missing metrological information.

3. Define the period, machines, cavities, shifts and material. Justify part selection, time sequence and subgroups technically.

4. Preserve every reading identity and process event. Define how missing data, repeat readings and unusual observations will be handled without erasing them.

5. Plan reviews of stability, distribution and the sigma estimate. Record the analyst, limitations and report review; do not infer acceptance from a single index.

LIMITS

Does not specify sample sizes, minimum indices or acceptance sampling plans. Does not establish stability or normality; those analyses and their assumptions need justification.

ORIGINAL EXAMPLE

FICTIONAL: study DEMO-S12 concerns length L on drawing revision D. Records are planned with time and cavity C1 or C2, retaining their separate identities. Sample count and frequency await technical approval. An incomplete form is not presented as a completed capability study.

RECORD FORM

Complete one copy per record. Attach sheets if more space is needed. Avoid ambiguous blanks: state unavailable or not applicable.

Question / part / revision / feature
Unit / limits / source / authority
Method / instrument / metrological review
Period / machine / cavity / shift
Selection / frequency / subgroups / rationale
Reading / time / sample / linked event
Missing data / repeats / rules
Stability / distribution / sigma: method
Analysis / limits / owner / review

SOURCES AND USE

General guidance and original VYRCO form. Sources support the context; they do not certify this template.

NIST/SEMATECH · Assessing Process Stability

Stability and time order as context for interpreting process data.

https://www.itl.nist.gov/div898/handbook/ppc/section4/ppc45.htm

NIST/SEMATECH · What is Process Capability?

Capability index definitions and assumptions; does not set an acceptance criterion for your product.

https://itl.nist.gov/div898/handbook/pmc/section1/pmc16.htm

NIST/SEMATECH · Production Process Characterization

Planning manufacturing data collection and analysis.

https://www.itl.nist.gov/div898/handbook/ppc/ppc.htm

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