Use of General Process Capability Data

Andreas Bruun Okholm, s082562
Mathias Rask Mller, s082536[1]
Technical University of Denmark

(Dated: 25 October 2013)

Using Generalized Process Capability Data to Reduces: Rework, Cost, Failure Rate, Assembly Problems and Increases Product Performance by using process capability from previous products. A description of the concept of generalization, uses and implementation strategy.

I. INTRODUCTION

robust design general

II. STATISTICS

a measurement a measurement set std and bias cpk

$$C_{pk} = \frac{bias}{3\,\sigma} \tag{1}$$

confidence intevals
sample size 1
Obtaining Process Capability data is a process of measuring a lot of products. Products are measured and compared to the nominal size they were produced for, this is called error.

In a production line control measurement are usually done by taking a set of samples to represent the entire population. Each product in the sample set, produces a measurement. From the set of measurements a standard deviation and a mean shift is calculated.

III. USES

existance of it-grade improvement per rework material selection

In the design process is often a problem to apply tolerances. This aspect of the design phase is often pushed to the very end before production. Features are designed so delicate that in order to meet specification tight tolerances are applied, which can be difficult to produce. This problem could be solved by looking up the critical tolerance the industry typically can produce to and altering the design for a suitable tolerance. I that way making tolerance selection a part of the design process.

By looking at normalized data of the variance of products of the same material and process, it is possible to find a suitable tolerance

IV. IMPLEMENTATION

Industry secrets

active actors and interest groups sub suppliers mechanical design consultants
difficulties

REFERENCES