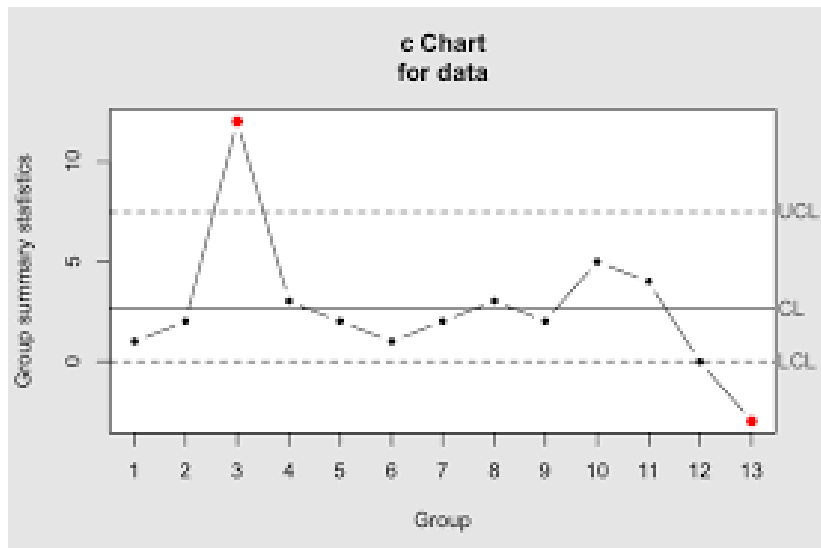


U-Charts

- ▶ In statistical quality control, the c-chart is a type of control chart used to monitor "count"-type data, typically total number of nonconformities per unit.[1]
- ▶ It is also occasionally used to monitor the total number of events occurring in a given unit of time.

C-Charts



C-Charts

- ▶ The c-chart differs from the p-chart in that it accounts for the possibility of more than one nonconformity per inspection unit, and that (unlike the p-chart and u-chart) it requires a fixed sample size.
- ▶ The p-chart models "pass" / "fail" -type inspection only, while the c-chart (and u-chart) give the ability to distinguish between (for example) 2 items which fail inspection because of one fault each and the same two items failing inspection with 5 faults each; in the former case, the p-chart will show two non-conformant items, while the c-chart will show 10 faults.

C-Charts

Nonconformities may also be tracked by type or location which can prove helpful in tracking down assignable causes.

Examples of processes suitable for monitoring with a c-chart include:

- * Monitoring the number of voids per inspection unit in injection molding or casting processes
- * Monitoring the number of discrete components that must be re-soldered per printed circuit board
- * Monitoring the number of product returns per day

C-Charts

The Poisson distribution is the basis for the chart and requires the following assumptions:

- ▶ The number of opportunities or potential locations for nonconformities is very large
- ▶ The probability of nonconformity at any location is small and constant
- ▶ The inspection procedure is same for each sample and is carried out consistently from sample to sample

C-Charts

The control limits for this chart type are

$$\bar{c} \pm 3\sqrt{\bar{c}}$$

where \bar{c} is the estimate of the long-term process mean established during control-chart setup.