Process Capability

Attribute Capability

Stable process can shift and drift by as much as 1.5 Standard Deviations. Want the theory behind the 1.5...Google it! It doesn’t matter.

Attribute Data is always long-term in the shifted condition since it requires so many samples to get a good estimate with reasonable confidence.

Short-term Capability is typically reported, so a shifting method will be employed to estimate short-term Capability.

By viewing these formulas you can see there is a relationship between them.

If we divide our Z short-term by 3 we can determine our Cpk and if we divide our Z long-term by 3 we can determine our Ppk.

\[ Z = \frac{X - \overline{X}}{s} \]

\[ Cpk, Ppk = \frac{(Closest \ Spec - \overline{X})}{3s} \]