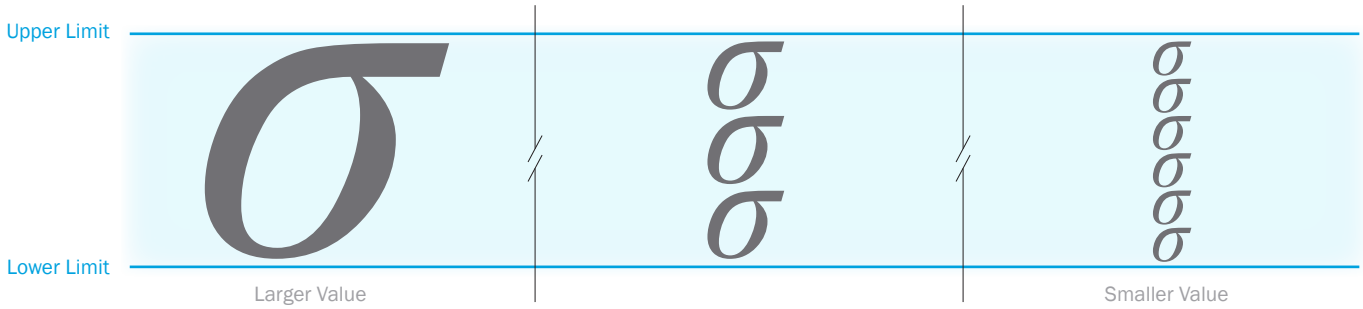
INSTRON®

The difference is measurable®

TrendTracker | Quality Control Challenge

Is your quality above average?

Sigma (σ) is the standard deviation in a set of measurements with the same expected value. For a production process, a smaller deviation means a well-controlled quality process with fewer defects (samples where the measure is out of the specified limit). Here is how a smaller value of σ leads to so-called six sigma process:

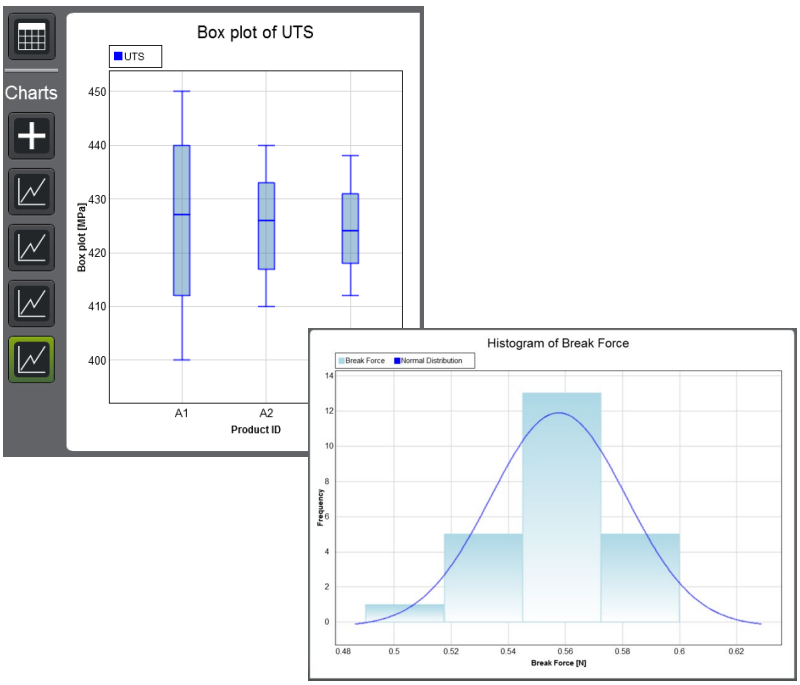


Every product has a target specification with a tolerance band. If the value of σ is small, more sigmas can be fit between the specification limits. As the value of σ decreases, the production process moves towards 6σ.

How can you prove your quality to your customers?

Using Bluehill Central's TrendTracker module:

- **Results are automatically exported to a Microsoft SQL Server database.**
- **Provides an intuitive interface to search, filter, analyze results across multiple samples, and accelerate results analysis workflow.**
- **Control Charts: Plot Control Limits, X-bar, R-bar, S-bar, Box & Whiskers, and Histograms**
- **Export to CSV & XML**
- **Copy & paste charts or export to bitmap, jpeg, or png formats**





Can you find the difference between Batch A and Batch B?

Your company is making adjustments to their raw material manufacturing process in order to reduce the cost of the product. Modulus data was gathered to compare specimens prepared with the new method (Batch A) and the current method (Batch B). Should the quality manager approve the new method of manufacturing?

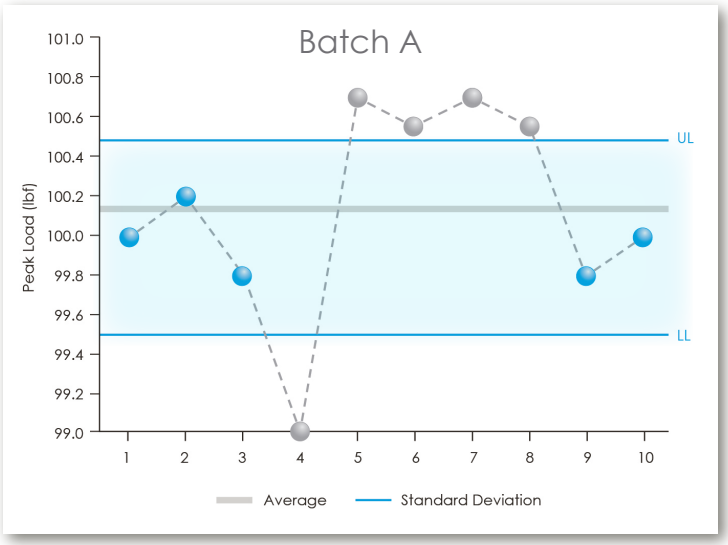
Modulus Analysis

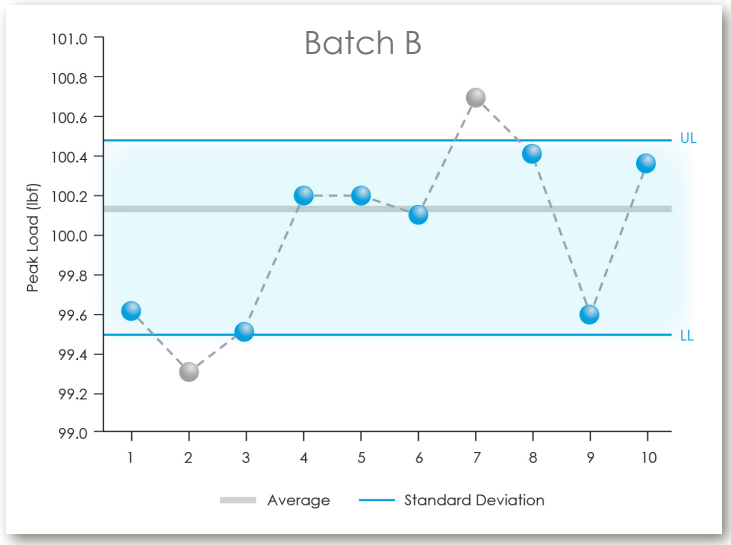
		1	2	3	4	5	6	7	8	9	10	Average	Standard Deviation
Batch A	Gpa	100.0	100.2	99.8	99.0	100.7	100.6	100.7	100.6	99.8	100.0	100.1	0.5
Batch B	Gpa	99.6	99.3	99.5	100.2	100.2	100.1	100.7	100.4	99.6	100.4	100.0	0.5

Let Us Visualize

Using the TrendTracker module's visualization capabilities, you can quickly plot the data gathered for specimens from Batch A and Batch B. According to Western Electric zone rules, if four out of five consecutive points fall beyond the 1σ limit, on the same side of the centerline like Batch A below, the process is considered unstable.

Conclusion: Batch A process are unstable and further investigation is required.





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