FACT SHEET

WHAT IS SS25% & WHY IS IT USEFUL?

Summary

Staple Length, Staple Strength and Position of Break are extremely important measurements that assist in the prediction of processing performance.

Staple Length is highly correlated with the mean fibre length in the top (Hauteur) and the Staple Strength affects the processing behaviour and top properties of wools of a given Staple Length.

The Trials Evaluating Additional Measurements (TEAM) have provided the wool industry with a model that allows the prediction of top length from these (and other) raw wool measurements.

SS25% is a term given to the average Staple Strength of the lowest 25% of staples and is useful for determining the level of variability in staple strength.

Staple Strength Measurement

- Average Staple Strength, measured in Newtons per kilotex (N/ktex), is reported on the Test Certificate
- The average Staple Strength is calculated using the roughly 60 staples measured per sale lot.
- SS25% is not reported on the test certificate, but included in the test data that is sent electronically. Brokers typically display this measure on their Sale Catalogues.

What is a "Good" Staple Strength Result?

- There is no single figure that suits all end-users. Generally, the higher the average Staple Strength, the better.
- However, the average Staple Strength does not tell the full story. There can be considerable variation in the strength results between *individual staples in a lot*.
- Figures 1 and 2 show Staple Strength histograms of two wools with the same average Staple Strength of 41 N/ktex (generally considered 'sound' by the wool trade), but have markedly different variation between individual staple strengths.

Figure 1: STAPLE STRENGTH HISTOGRAM (Sample 1)

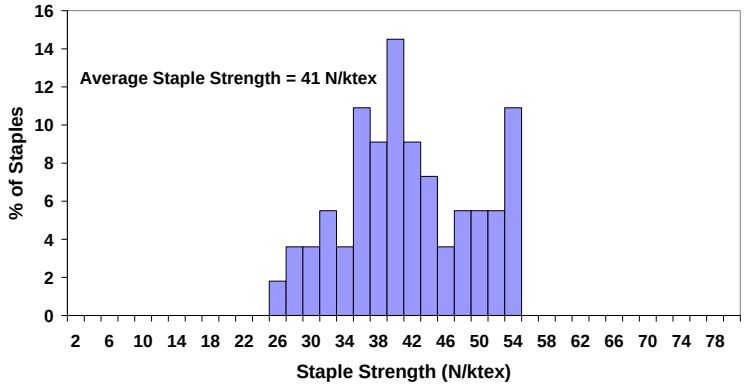
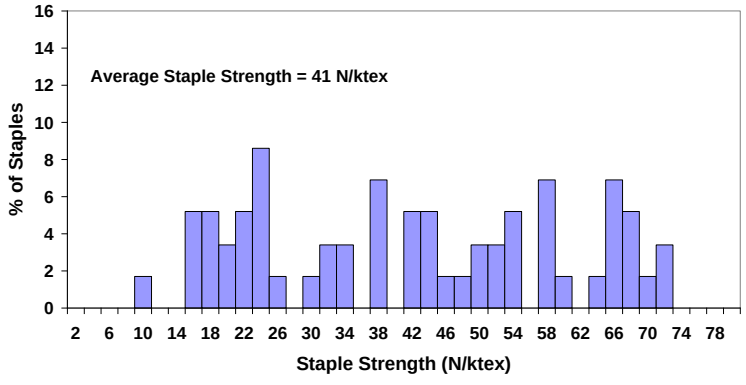


Figure 2: STAPLE STRENGTH HISTOGRAM (Sample 2)



- The following table illustrates the relationship between staple strength variation and the SS25% calculation for samples 1 and 2:

	Sample 1	Sample 2
Average Staple Strength (all staples)	41 N/ktex	41 N/ktex
SS25%% (ave. strength of **lowest 25%** of staples)	30 N/ktex	17 N/ktex

- Although Samples 1 and 2 have the same average Staple Strength, nearly one third of the staples in Sample 2 are very tender. The average Staple Strength of the lowest 25% of staples in Sample 2 (SS25%) is only 17 N/ktex. It is able to achieve an average Staple Strength of 41 N/ktex due to the influence of some very sound staples measuring in excess of 60 N/Ktex. Conversely, Sample 1 has less tender staples with the average Staple Strength of the lowest 25% of staples being 30 N/ktex.

- The above example shows why SS25% may be a useful tool in identifying staple strength variability in sale lots.

Related Information:

Additional material is available from the AWTA Raw Wool division website on the links below:

Measurement of Staple Length & Strength

Raw Wool Fact Sheets

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