DUINROOSWEG 57, 1759HG, CALLANTSOOG, THE NETHERLANDS, TEL;+31 224 581458 FAX: 582069
EMAIL: info@stringway-nl.com

TUNING A STRING JOB:
TO ADJUST STRINGING TENSION AND STRING ELONGATION.

STRINGING TENSION AND STRING QUALITIES.
A stringer can adjust his stringjob to the type of play of his customer with the stringing tension and the type of string.
It is very important to choose the right tension and the right string to gether based on the type of player and his injuries.

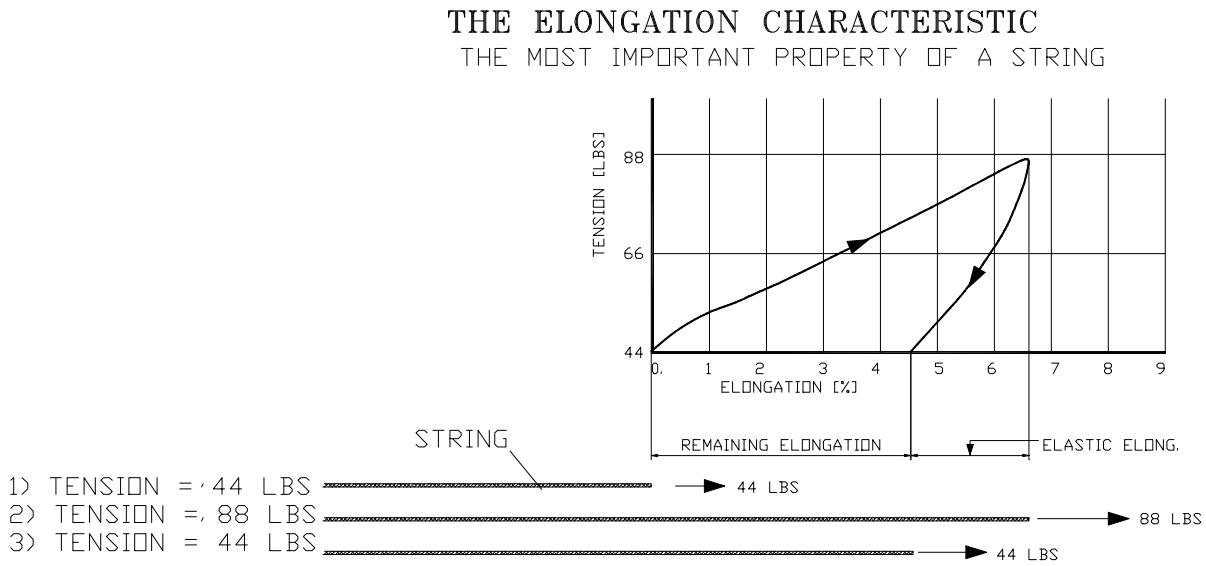
THE STRETCH QUALITY OF A STRING.
The stretch quality is the most important property of tennis strings. The elasticity of the string provides the power and too much remaining elongation (that does not recover) causes too much loss of tension.

The major quality of gut strings is their high elasticity (elastic elongation), there is no synthetic string that can match the elongation of gut strings.

The stretch qualities of strings can be measured quite simply. Not many string suppliers provide the elongation figures of their strings despite the importance of these figures.
Many stringers use the diameter (gauge) of the string to adjust their string job.
However the there is hardly a relation between the elongation of the string and the gauge.

The elongation qualities of a string depends upon the structure and the material of a string.

MEASURING THE ELONGATON.



The figure shows the principle of measuring the elongation of a string.

Because tennis strings are used between 44 en 80 lbs the elongation is measured from 44 to 88 lbs (20 to 40 kg).
It is important that a string is not tensioned before when doing the test it has to be “virginal”.

The meaning of the different figures:
The figure shows the graph and the length of the string below the graph.
Situation 1);
The tension is 44 lbs and this is the start of the test the elongation is measured from here.

Situtation 2)
The tension is raised to 88 lbs. The elongation is 6,7 % and this is the total elongation.

Situation 3)
The tension is back to 44 lbs. The elongation at this moment is 4,5 %.
2,2 % of the total elongation has recovered, this is the elastic elongation.

To know the elongation of a string it is not necessary to make the graph it is ok when you know the elongation at 88 and back to 44 that supply all the needed information.

THE MEANING OF THE ELONGATION FIGURES IN PRACTICE.

The meaning of the elongation figures in the tennis practice is as follows:

* **More elastic elongation:**
- More power, easier acceleration of the ball.
- Better recovery after a spin stroke.

*** More remaining elongation:**
- More and quicker loss of tension during play, resulting in loss of stiffness of the stringbed.

*** More total elongation:**
- Longer ball contact resulting in more comfort, and lower load on the arm.
- Worse durability because the string slides up and down more and wearing of quicker.

TYPE OF STRING AND THE STRINGING TENSION.
If a player wants to use the elasticity of a string it is important that the stringbed deflects enough to stretch the string.
If the stringbed does not deflect, the string does not stretch so a player does not feel the qualities of the string
A player only has the advantages of the high quality string when the stringbed is soft enough to deflect so that the string stretches.

- If high quality strings are used the string bed stiffness must be low, between 30 and 35 kg/cm (kg/cm = Dt value).
- If high tensions are used it is no use to string comfort strings with much elongation, because the elongation is not used at all.
- If players want control instead of power and comfort they should use stiffer strings at higher tensions

CLASSIFICATION OF STRINGS FOR DIFFERENT PLAYERS.
Different players should have different strings at different tensions:

Comfort players or players with arminjuries:
String: Total elongation more than 4 %, good elasticity, durability unimportant.
Stringbed stiffness: Between 30 and 34 kg/cm
Tension: can be calculated from the stiffness when the size of the racquet and the number of strings is known.

All round players:
String: Total elongation 3,4 to 4 %, good elasticity, reasonable durability.
Stringbed stiffness: 33 to 36 kg/cm (dt value)
Tension: can be calculated from the stiffness when the size of the racquet and the number of strings is known.

Spin players who prefer playability:
String: Total elongation 2.8 tot 3,4 %, good durability.
Like Prince tournament.
Stiffness: 36 to 38 kg/cm.
Tension: can be calculated from the stiffness when the size of the racquet and the number of strings is known.

Spin who prefer durability:
String: Total elongation 2.0 – 2,8 %, elasticity unimportant, high durability.
Poly strings or Kevlar/ nylon combination.
Stiffness: 38 – 40 kg/cm
Tension: can be calculated from the stiffness when the size of the racquet and the number of strings is known.
