NL Racketforum

TENNIS

&

FORMULE 1

What should be the similarity?

English – Deutsch - Nederlands

- The lecture is in English.
- BUT you can ask questions in German and in Dutch also.
- Sie koennen Fragen stellen auf Deutsch.
- U kunt vragen stellen in het Nederlands.

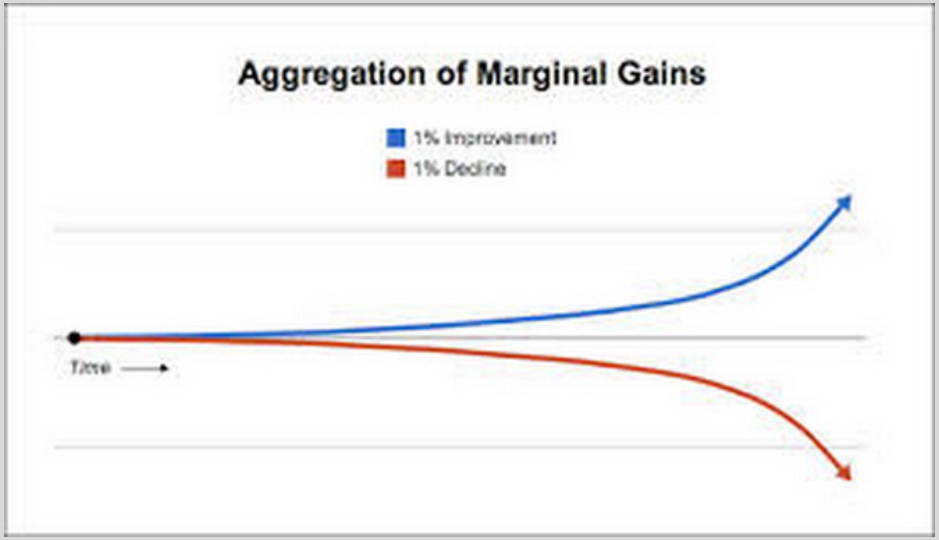
Our experience

- That many young players play with completely wrong set up of the racquet and stringbed.

Much to stiff stringbed, wrong monofilament strings and / or racquets which are too heavy

- The importance of optimal tuning is heavily under-estimated.
- **Has a "quadratic" effect on the development of young tennis talents**

Marginal gaines



- Small changes in the beginning of trainings course have huge effect on the end result!
- >>> It is very important that young tennis talents play with the best possible set up for their game!
- **In this way British cycling has made huge progress and reached the top.**

From Stringer to racket tuner

- **The racquet tuner;**
- Knows the relation between playability and racquet specs.
- Has tools to test the racquet specs.
- Can calculate stringing tensions, which result in desired stringbed stiffness.
- Can test the stringbed stiffness to check his job, himself and his machine

It will be too technical sometimes!

Maybe you think, “that is too technical for me”, than please think;

- *You know enough when you can do the tests and understand what the results mean.*
- *The explanations are shown for the good understanding.*

ADVICE: Only try to remember the main things.
You can download the hole lecture.

Content of this seminar:

*** Explain more about:**

- Classificaton of strings
- String-bed-stiffness (SBS)
- Swing weight of the racquet (SW).

*** Demonstrate the tools.**

*** Advises string - SBS and SW for young players.**

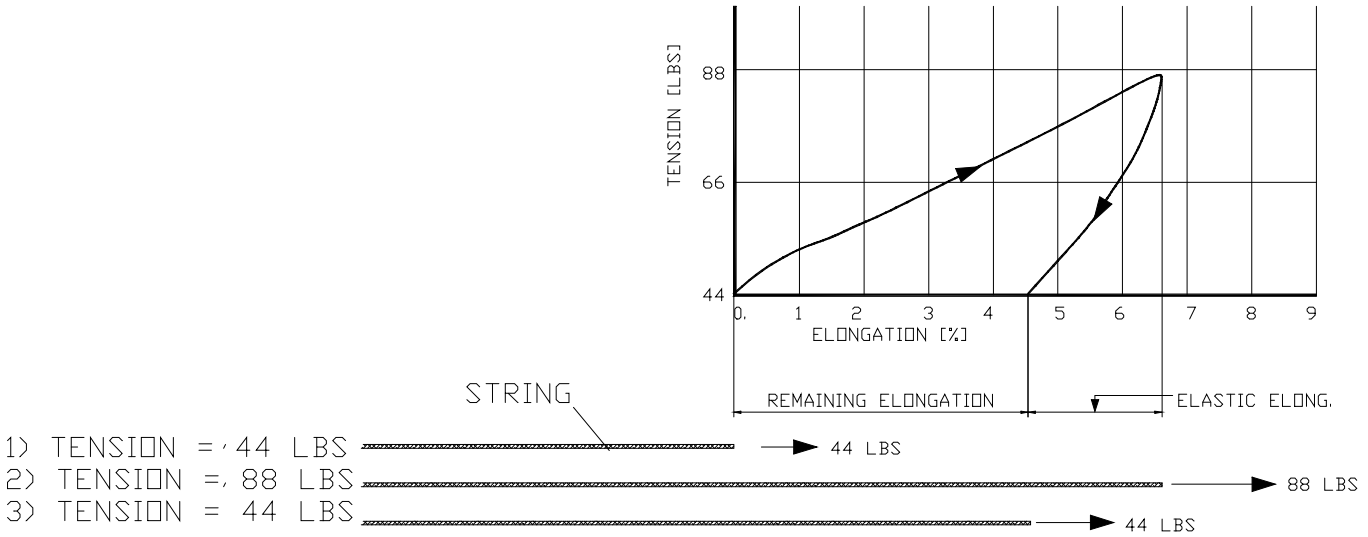
Classification of strings

- The string is the big “black hole” in de racquet industry. There is no manufacturer who tells the main specifications of its strings!!
- The result is: “100000” types of strings and the stringer has no idea which one to use for whom.
- **Is that really useful?**

The most important quality of a string are the elongation figures.

THE ELONGATION CHARACTERISTIC

THE MOST IMPORTANT PROPERTY OF A STRING



MORE ELASTIC ELONGATION:

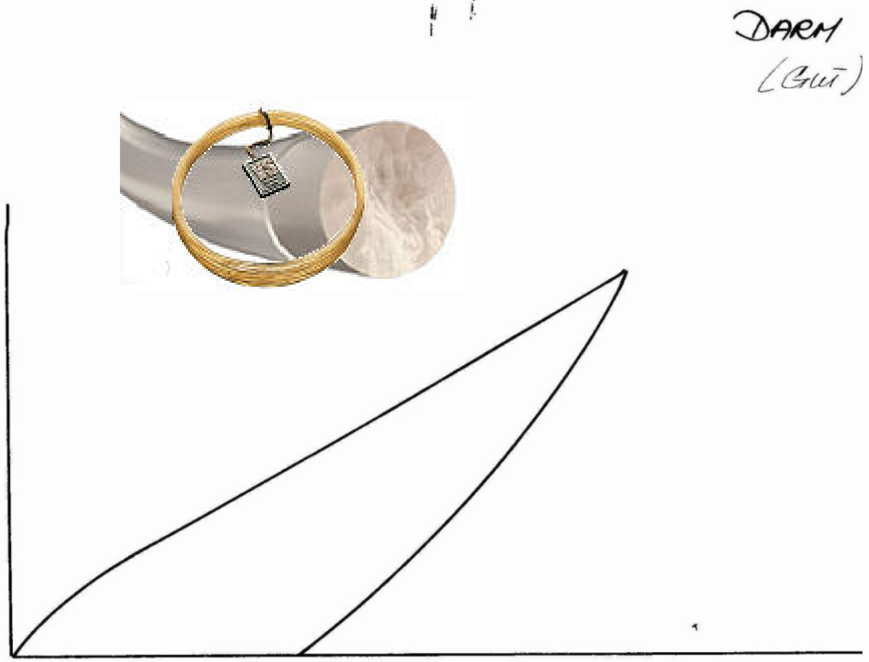
* BETTER BALL ACCELLERATION.
* BETTER RECOVERY AFTER SPIN STROKE.

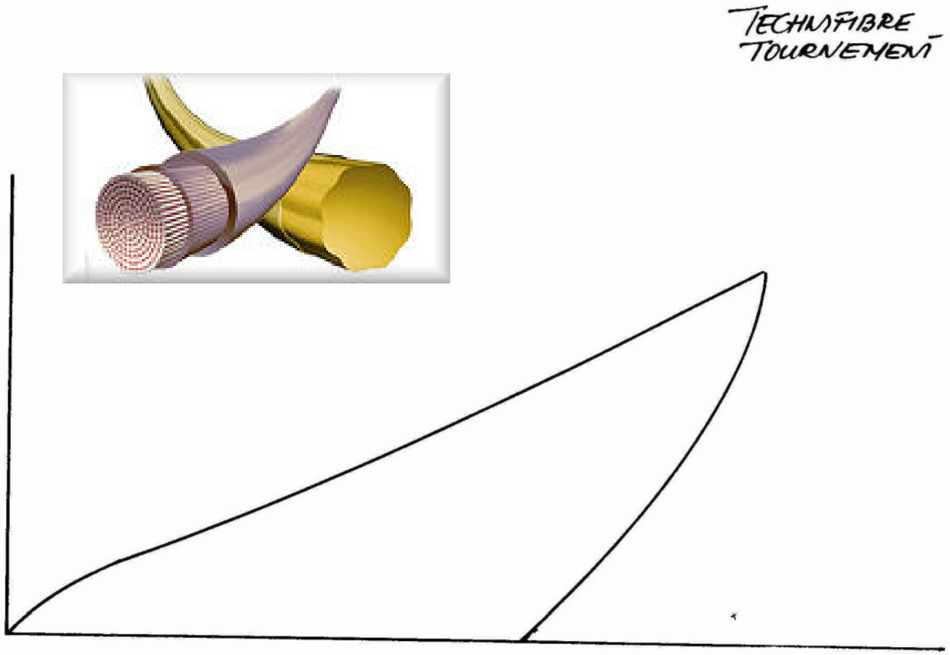
MORE REMAINING ELONGATION:

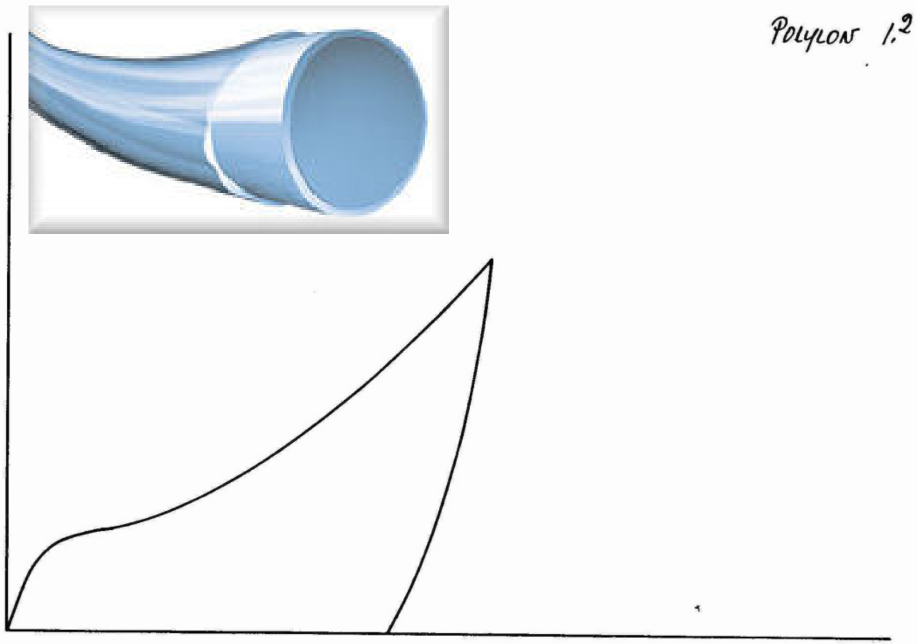
* MORE LOSS OF TENSION.

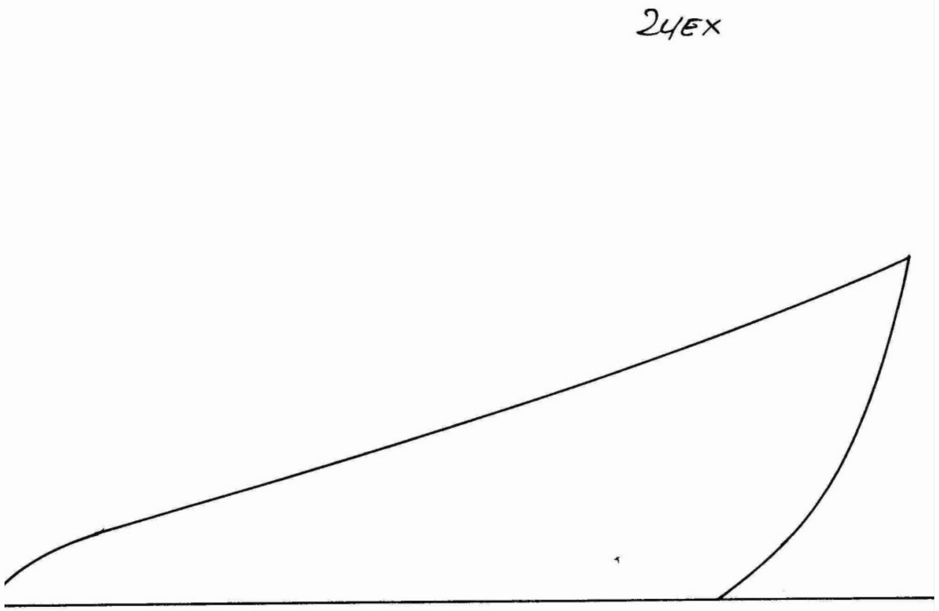
MORE TOTAL ELONGATION:

* LONGER BALL CONTACT:
  - BETTER COMFORT.
* WORSE DURABILITY.


DARM
(GUT)

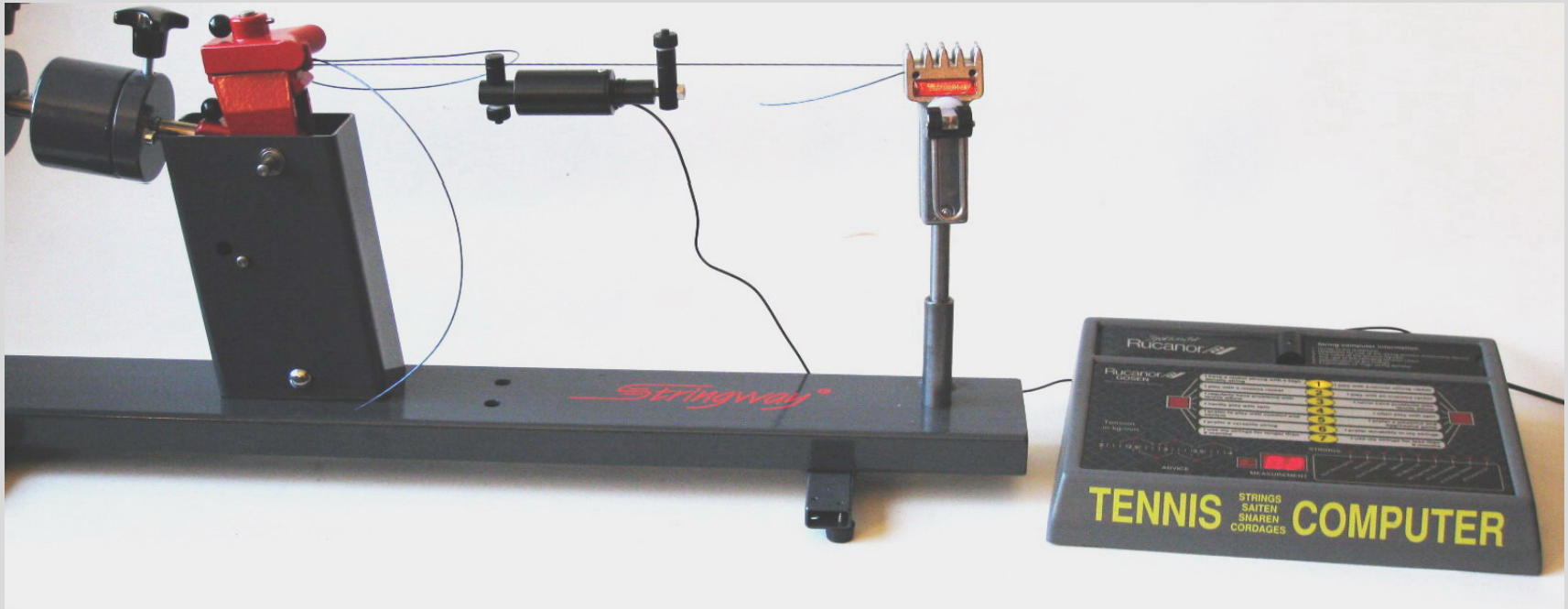

TECHNIFIBRE
TOURNEMENT


POLYLON 1.2


2HEX

Elongation is easy to measure and to feel (demo 11 m)**.**

- Please pull the samples and feel the difference!



Objective: Classification of strings

	I	J	K	L	M	N	O	P	Q	R	S
5		string-	diam	**Elastic elongation**		**Remaining elongation**		**Tot elongat**	**El/tot**	**stiffness**	**Classific**
6	type of string	desing	[mm]	20-30 kg	20-40 kg	20-30 kg	20-40 kg		20-40 kg		
7					[%]		[%]			kg/%	calculate
8	**Class SXC too much elongation**			Veel tot te veel rek.							
9	Head Sonic Pro 17 *)	mono	1,22	1,0	1,6	3,2	7,4	9,0	0,18	2,4	Sxc
10	Sonic Pro 17 *)	mono	1,22	1,0	1,6	3,2	7,4	9,0	0,18	2,4	Sxc
11	Pacific Polypower 16L	mono	1,22	0,8	1,2	1,8	7,7	8,9	0,13	3,8	Sxc
12	**Class S1 comfort**										
13	Polyplasma 1,23	mono	1,23	0,9	1,3	1,2	3,6	4,9	0,27	4,8	S1
14	Wilson SGX	multi	1,30	1,6	2,8	1,6	2	4,8	0,6	3,13	S1
15	Silverstring	mono	1,20	1,0	2,0	1,1	2,8	4,8	0,42	4,76	S1
16	**Class S2 allround**										
17	PolyNyking	multi	1,30	1,8	2,8	0,4	1,1	3,9	0,72	4,5	S2
18	Elite	multi	1,30	1,4	2,6	0,8	1,3	3,9	0,67	4,5	S2
19	Enduro Gold	mono		0,4	0,7	1,3	3,2	3,9	0,18	5,9	S2
20	**Class S4 spin playability**										
21	Prince Prince softflex 16	multi	1,32	1,1	1,8	0,2	1,4	3,2	0,56	7,7	S3
22	Poly Code	mono	1,28	0,9	1,6	1,0	1,6	3,2	0,50	5,26	S3
23	Wilson Sensation	multi	1,30	1,0	1,6	0,7	1,6	3,2	0,50	5,9	S3
24	**Class S4 spin durability**										
25	Prince Tournement	multi	1,38	0,9	1,5	0,1	0,8	2,3	0,65	10,0	S4
26	Revolution	mono	1,32	0,7	1,2	0,3	1,1	2,3	0,52	10,0	S4
27	black pearl hex -2	mono	1,24	0,6	1,0	0,1	1,3	2,3	0,43	14,3	S4

GENERAL CONCLUSIONS

- The gauge of the string is not a good value for the playability of it.
- Huge difference in total and remaining elongation.
- >>>> big difference in loss of tension.

The stringer needs to know the classification of the string,

So that he knows which string to offer to different types of players.

http://www.stringway-nl.com/pdf/Snarentest 2014-1- op tot rek.pdf

The string-bed-stiffness

Modern stringers do not think in tension anymore

- The player feels the string-bed-stiffness (sbs) and not the stringing tension on the stringing machine.
- The SBS is the **test value** of a new and used stringbed.
- The SBS determines what the player feels of the string qualities. (If the string does not stretch on impact, the players can not feel how it stretches)
- The player feels the stiffness first and the type string after that. (Comfort string at a high stiffness!)

Checking the SBS is important for different reasons.

* After stringing:

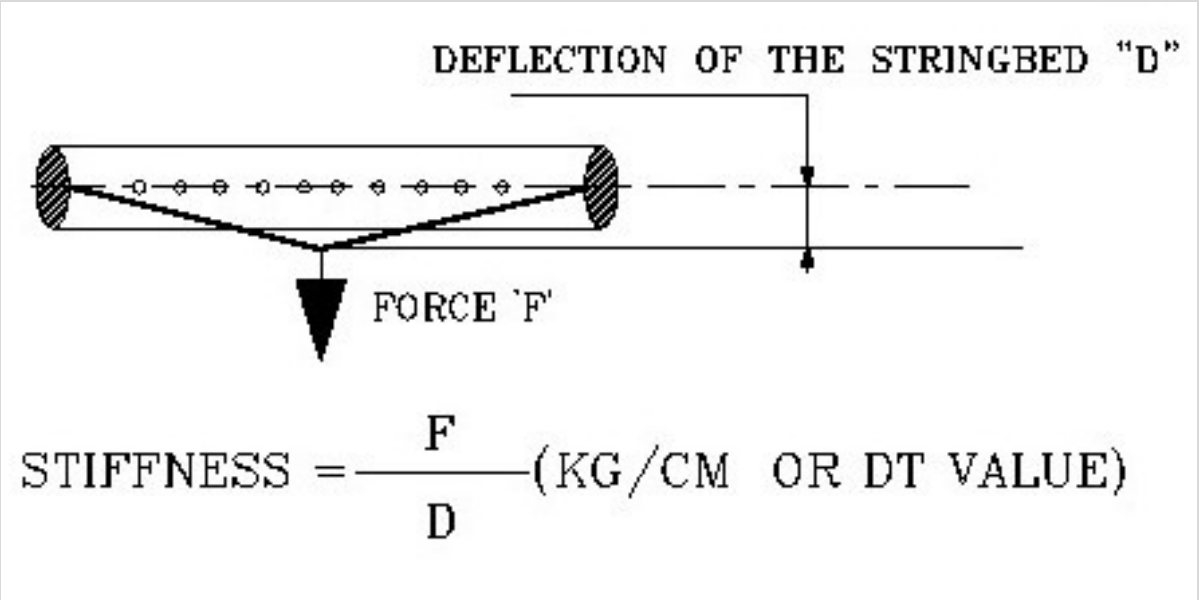
- To see if the SBS is ok for the player.
- To see if the machine functions well.
- To see if the stringer works well.

* After play:

- To “test” the quality of the string. Bad strings loose tension quicker!

The values of the SBS

In kg/cm or Dt value



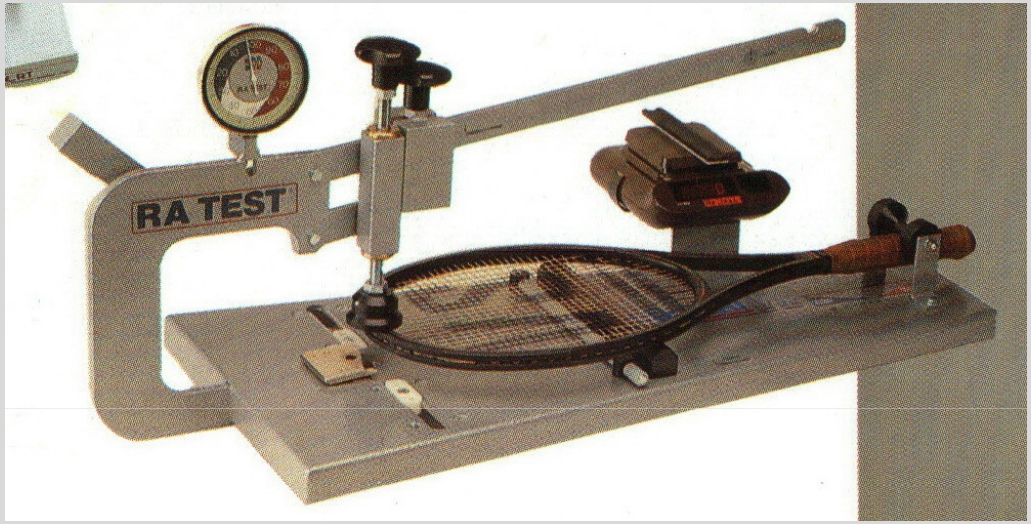
* The SBS range:

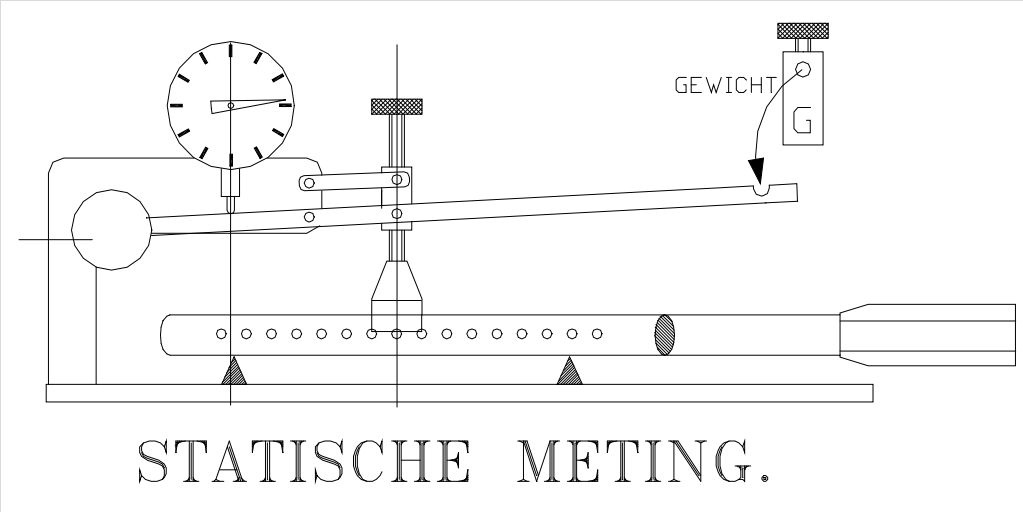
Under 25: too soft, much power.

- 25 - 30: Power and comfort.
- 30 – 35: Control and comfort.
- 35 – 40: Control and durability.
- Over 40: Useless.

Mother of all test systems.

Launched around 1985 gelanceerd.





Principle:
- Create zero pressure.
- Adjust clock on100
- Add pressure with the weight.
- Clock shows RA-value.

Modern stiffness testers

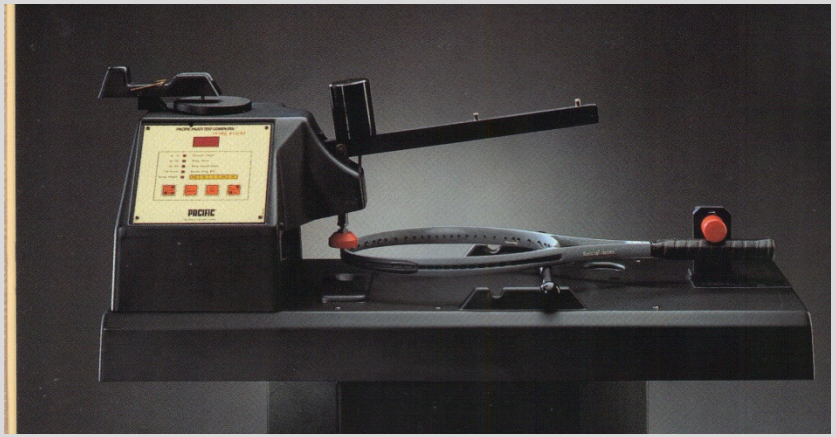
ERT 300

STRINGLAB 1

RACKETTUNE

STRINGLAB 2

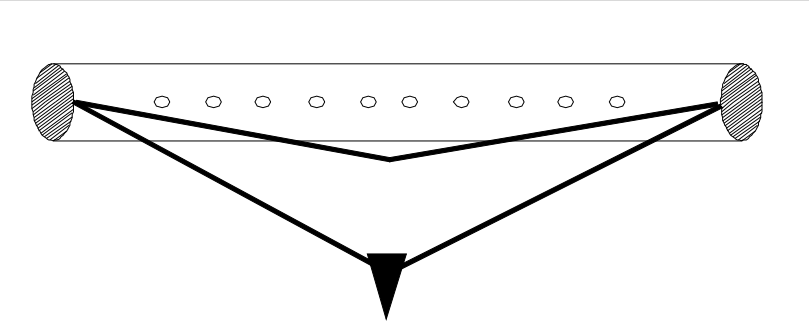
Statische hardheidsmeters.

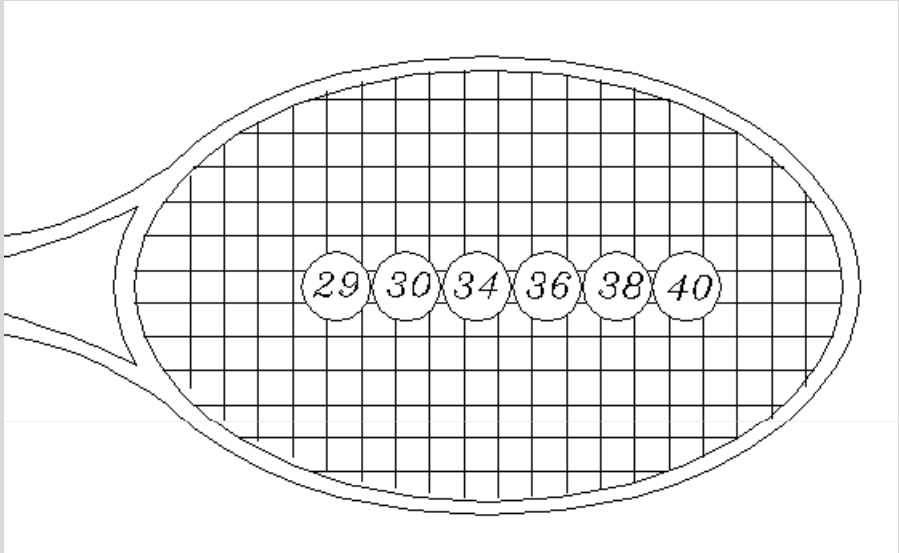


The many stiffness values of a string bed

The stiffness is different in every position.

Because the tension in the crosses goes down to towards the last string.





The bigger the deflection the higher the stiffness.

Because the tension in the string goes up.

STRINGLAB 2

Measures the spring force of the stringbed

The basic-function: (Show video)

- Measures in kilogram per cm [kg/cm].

-= DT value of the ERT systems.

DEMO - STRINGLAB 2

https://www.youtube.com/watch?v=mUQrlSTnvT0&feature=youtu.be

- Placing the pressure ring (2,0 min)
- **Upgoing measurement (2,15 min.)**
- **Return stroke principle** (va 4,40 min) measures the spring back effect of the string-bed
- **Demo slappe trekveer.**

The right stiffness for every player

"Modern" and "old-fashioned" string beds

The old and new tennis pros:

Lendl , Agassi, Seles played with 45+ kg/cm

(Because they wanted to control the speed of the ball)

Federer and Nadal play with 34 kg/cm

(depending on the surface they play on!)

(They **use** the speed of the incoming ball)

Offering a high "stroke efficiency"!

How important is the right stringbed stiffness?

We use the modern pros as a reference.

Importance of soft stringbeds for young talents.

If Federer and Nadal play with 34 kg/cm, talented children should play with lower SBS!

A soft stringbed is very important for young players:

→ To learn to use the spring effect of the stringbed.

→ To play more on technique for better stroke accuracy.

→For higher stroke efficiency.(using the energy of the incoming ball)

→ For less chance on injuries.

→Takes less effort, for longer maximum concentration.

-Result >>> More progress and higher level at the end.

How does it go in the Formule 1?

- **The engineer tunes the whole setup until the driver can perform at his best.**

- **After that it is up to the driver to perform at his best.**

How should it go in tennis?

1. The **young talent** meets the **top coach** for the first time**.**
2. The coach asks him to hit **“80 % balls”.** (for a good mix of depth and control)
3. The coach watches the **depth of the balls.**
4. And if the **stroke-preparation is early or late** (irt SW).
5. IF the balls bounce **too far from the baseline**, the **stringbed is too stiff.**
6. The coach **measures the SBS** and gives a **stringing advise.**

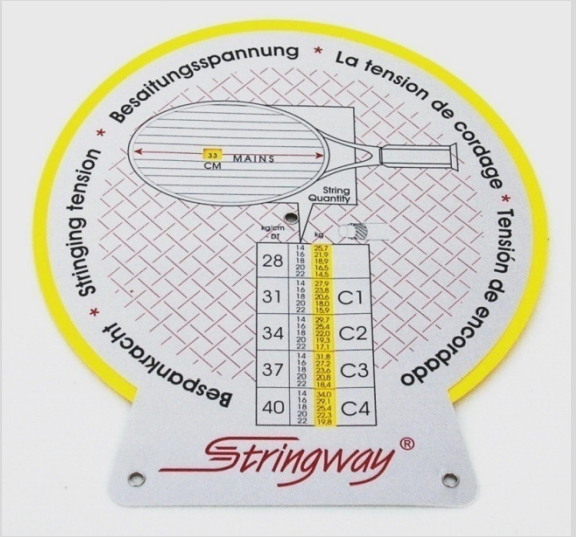
7. **OR the coach can advise to lower the tension by “1 kg/ meter” (Elliot’s law)**

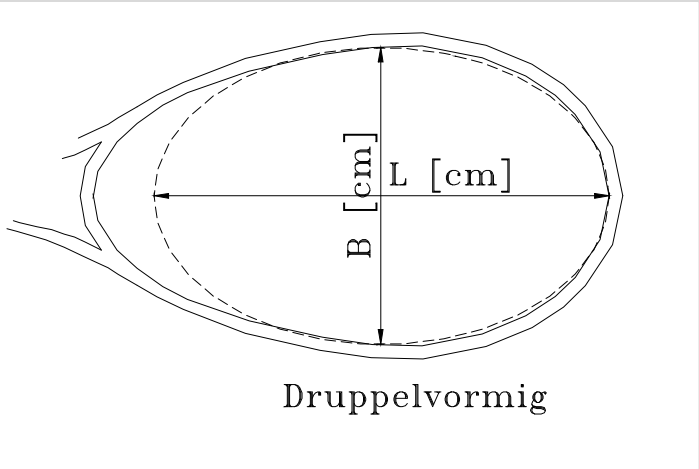
From SBS to stringing tension.

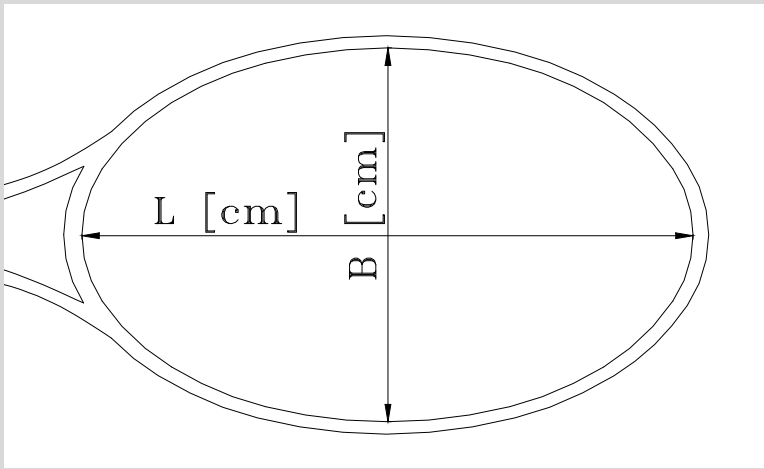
With the SW Tension Advisor

The tension for a certain SBS depends on:

- **Size of the string area.**
  - Bigger surface > higher tensions.
- **The number of strings (string density)**
  - More strings > lower tension.







To calculate the stringing advise for young players.

Online Tension Advisor

www.stringway-nl.com/en/TAonline/calc.php

IMPORTANT:

De Tension Advisor is only a guideline!

Many factors influence the relation between Tension and SBS:
Sa: The **String,** the **stringer** and the stringing machine.

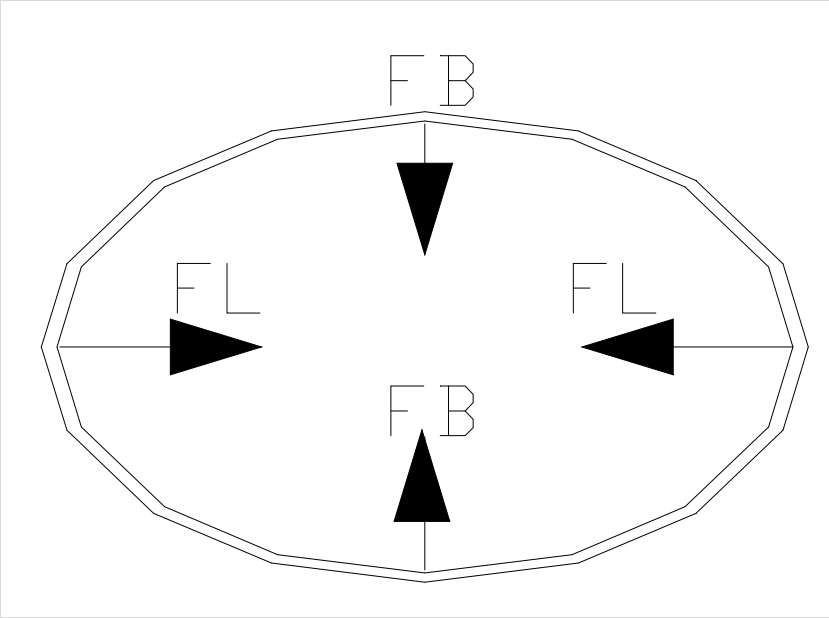
Checking the tensions and SBS

After stringing the tensions have to be checked:

*** If L en B are the same before and after stringing the used tensions were right.**

-Smaller length >>>>>TB too low.

*** Check if the SBS is ok.**



The SBS should be right after 2 times play.

A stringbed looses 10 to 20 % tension during the first play. (depending on the string)

-> The SBS should be right after 2 hrs of play.
After that the loss will be small.

Racquet flexibility and playability

A MORE FLEXIBLE FRAME OFFERS:

- **A longer ball contact**

->> More time to control the bal.

->> Lower force on impact >> more comfort.

- **Less "stroke-accuracy" for hard hitters.**

- **More "loss of energy", so less power**

- A racquet never offers spring effect like the string bed.

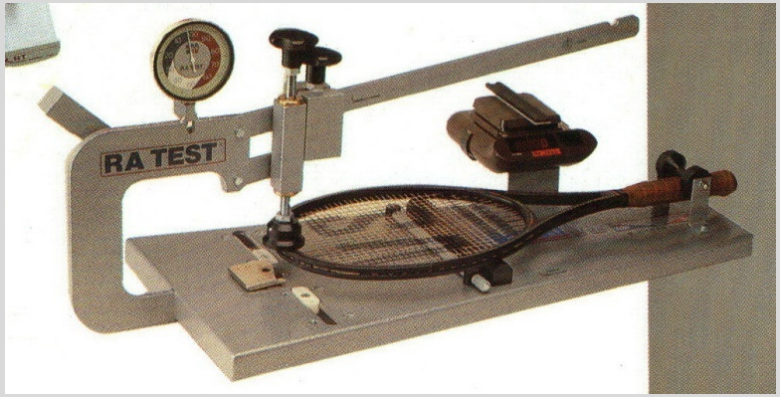
Hard-hitter >>>>> prefers stiffer frame.

Player with more feeling >>>>>> prefers more flexible racquet.

Most racquets are quite stiff nowadays.

Testing the flexibility of the racquet.

The Babolat machines measure in RA value
The Stringlab 2 in kg/cm



Demo ST2: (va 2,56min)

The racquet flexilibity in the tennis practice

RA-value
Lower than 50: very flexible
50 - 55: flexible
55 – 60: medium flexible
60 – 65 stiff
➢65 very stiff

-

Stringlab 2 C	Babolat
kg/cm	Ra waarde
13	72,9
12,5	71,9
12	70,7
11,5	69,4
11	68,0
10,5	66,5
10	64,8
9,5	63,0
9	60,9
8,5	58,6
8	56,0
7,5	53,1

The right tuning for children

SBS – string class – Flexibility racket

Tuning for children:

* **Flexible racquet** for comfort and control (RA = 50 – 55)

* **Multi filament string** for comfort and power (S2 or S3).
- **OR** hybride string in case of much wear at low SBS.
- **OR** 100 % mono at very low SBS.

* **LOW SBS** for comfort and power :
- 31 – 34 kg/cm for multi.
- 28 – 31 kg/cm for hybr / mono

-THE LOWER THE BETTER!!!

- With vibration damper

What should be the similarity between Formula 1 and Tennis?

>>>>>>

The similarity must be:

To reach the top there should be maximum attention for EVERY DETAIL!

Optimal tuning is a major need when children want to reach tot top:

---->>> "ADDITIVE EFFECT"

So, it is not a secondary matter which will be ok anyway.

Technique > top-tuning > stroke efficiency > progress > confidence > results > pleasure >

MAXIMUM CHANGE OF SUCCESS

Swingweight = weight + balance

THE "SWINGWEIGHT" IS DIFFERENT FOR EVERY PLAYER!

A player feels the combination of weight and balance of the racquet. >>>>>>>>>>> **This is the "Swing-weight".**

- The balance and the weight are easy to measure.

Measuring the SW is much more difficult.

The importance of tuning the Swingweight

- **In general applies:**

-Higher SW takes more strength.

-The later the backswing the less time there is to make the full swing.

-The longer the backswing, the more time it takes.

-***Therefore; a player with a late preparation should never play with a high Swing Weight!***

The danger is that he will shorten his swing, otherwise he is too late.

VIDEOS DIFFERENT PREPARATION

* **Steffi Graph**

- The example of a late continuous loop.

-http://www.youtube.com/watch?v=ztX4O8Kr-Gw

* **Nadal – Djokovic**

-Watch the "sloppiness" and timing compared to / clean calmness.

-http://www.youtube.com/watch?v=899lWNVWM1s

***Juan Martin del Potro Practice**

-Late but short backswing / long arm.

-Much wrist action.

-http://www.youtube.com/watch?v=jjC9STC2L4A&app=deskt

* **R. Soderling: Forehand Analysis**

-Very long and early backswing (visible on the "other side of the body) " http://www.youtube.com/watch?v=ZuBC8Sj8pdc

Swingweight of the PROS

Because of the big difference in technique they use very different SW's

Safin	heywit	Wawrinka	Nadal	Roddick	Ferrero	Murray	Djokovic	Federer
31,2	31,0	31,3	32,5	32,9	33,4	33,2	32,8	32,6
8,8	**8,8**	**8,8**	**8,8**	**8,8**	**8,8**	**8,8**	**8,8**	**8,8**
300	306	312	319	335	336	340	347	349

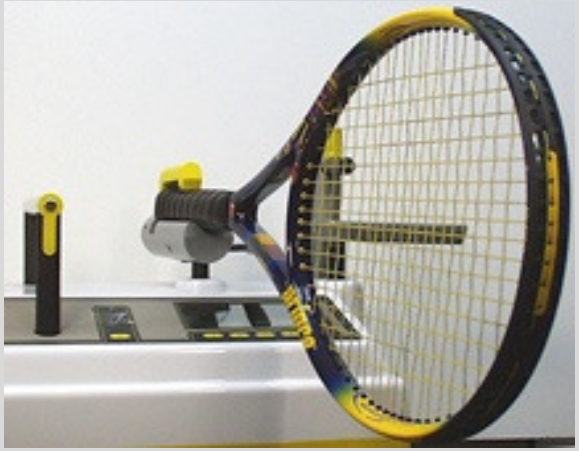
Tuning the SW for children

What does a child notice when the SW is too high?
It takes more strength to make the complete swing:
>>> He (or she) will be tired earlier
>>> The chance of overload is bigger.

• The result can be that he will shorten his backswing:
>>> Les power and les accuracy.

Testing the “swingweight”.

* The Swing-weight can be measured by measuring the "swing time" of the racket.
* There are very nice “Swing weight machines”.



The SW advisor does more and cheaper

advises – ‘measures SW’ - customizes

The basis is the weighing the head and throat weight:

Check of the head and throat weight

- **Supports must be clear single points**
  - Therefore use small supports.

- **The check is:**

W head + W throat = W total

The online Swingweight-Advisor

Because many children play with a racquet which is too heavy we developed the Swing-weight-Advisor .

The SW-Advisor
advises SW – calculates SW – matches racquets.

http://www.liquid12.nl/swcalc/index-en.php

-- Demo with player--

How does the Swingweight-Advisor work

- **Early or late preparation of the forehand.**

  * Late preparation requires lower SW

- **Short or long arm of the forehand at the moment of hitting**

  *Higher SW with short arm for enough power.

- **Lady / man**
- **Age**
- **Build**

Swing Weight values:

- Young players between 220 and 300 kgcm^2
- Seniors between 280 en 350 kgcm^2

What can we test and advise for you.

We can test:

- SBS - Swing weight – Racquet flex. n.

We can advise:

- SBS – string-class – Swing weight – Racquet flex.

End of our story

Do you have any kind of questions?

*** We thank you for your presence**

&

*** Wish you lots of luck in coaching playing, stringing and tuning.**

•ONDERLIGGENDE INFORMATIE:

• c:\doc\forum NL\ videos van spelers.doc

• c:\123\2014 SW\Racketadvies systeem-2.xls

• c:\doc\bespantech\pros info.pdf

(http://www.strategictennis.com/rackets6.pdf)

•USRSA racquet info:

http://www.racquetresearch.com/sevencri.htm

•USRSA technische tools

•RACKET INFO

•http://www.tenniswarehouse-europe.com/lc/SelectingRacquet.html

•Babolat rackets met SW notatie

•http://www.tenniswarehouse-europe.com/catpage-BABOLATRAC.html

•Racket list Tennisware house.

http://twu.tennis-warehouse.com/learning_center/specsandspeed.php

TENNISPOINT lichte rackets

http://www.tennis-point.nl/tennisrackets/#searchFilter%5BWEIGHT%5D%5B%5D=206&searchFilter%5BWEIGHT%5D%5B%5D=264

Aansluiten op tv

http://www.zelfaansluiten.nl/beeld-geluid/laptop-aansluiten-op-tv.html

HDMI

Scherm instellen op volgende pagina

Stap 8 – Scherm instellen
U dient nu slechts nog uw tweede monitor correct in te stellen. Onderstaande uitleg wordt ondersteund door afbeeldingen.
Klik op een vrije plaats op uw bureaublad op de rechtermuisknop. In Windows XP kiest u dan voor “Eigenschappen”, en vervolgens gaat u naar het tabblad “Instellingen”. In Windows 7 of Vista, kiest u voor “Aan persoonlijke voorkeur aanpassen”. Klik vervolgens op de optie “Beeldscherminstellingen.

Klik nu op het plaatje van de tweede monitor en kies voor de optie “Het bureaublad naar dit beeldscherm uitbreiden”. Vervolgens stelt u de juiste resolutie van de tweede monitor in en klikt u op “Toepassen”. De tweede monitor moet nu aangaan en een beeld tonen. Ziet u niets op uw TV dan zult u uw TV op het juiste kanaal af moeten stemmen (AV). Ook kan het voorkomen dat u een resolutie hebt ingesteld welke uw TV niet kan weergeven. U kunt in dit geval het beste alle resoluties even testen.