

## Frame conditions

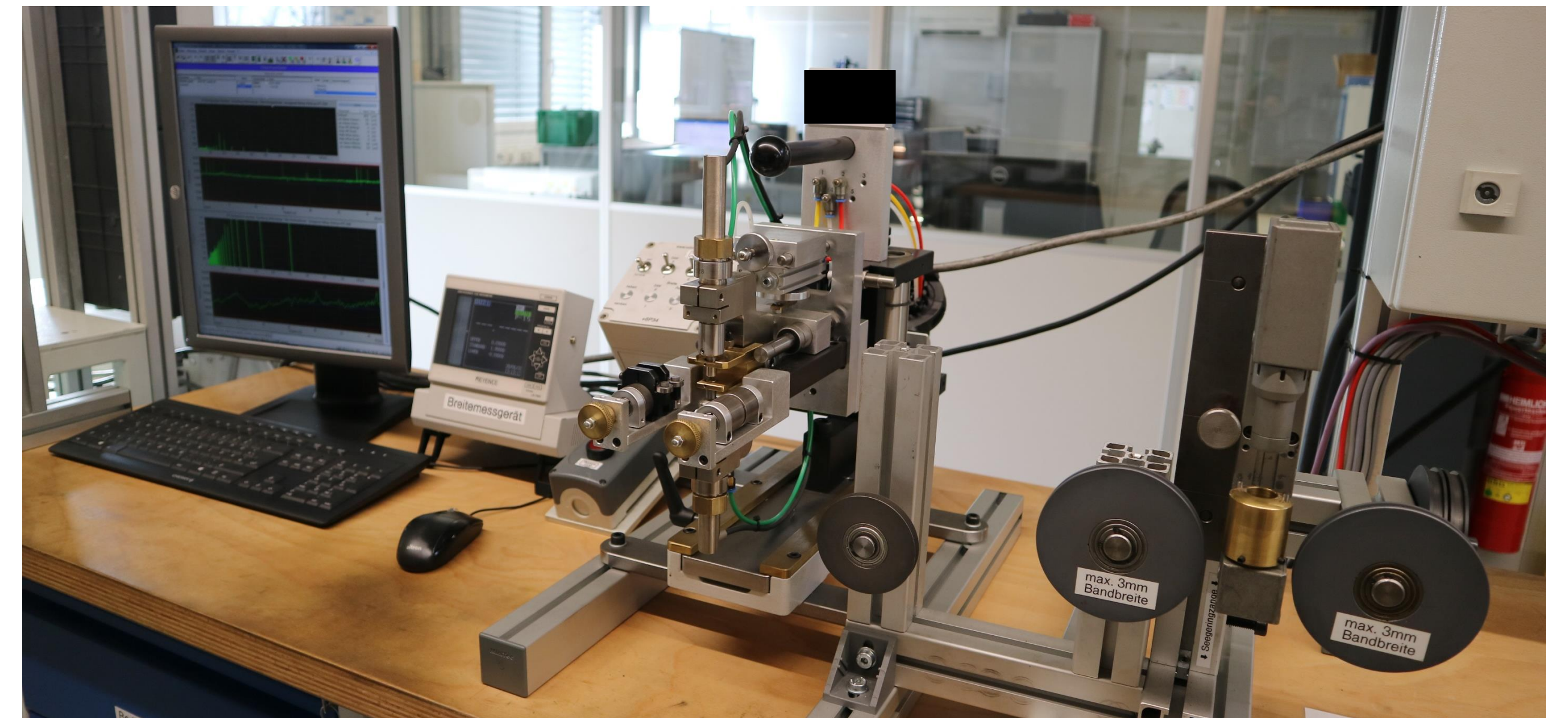
- Global product comparison of silver plated copper flat wire from six different suppliers
- In order to ensure an objective comparison, the spools are subsequently given the letters A - F
- **Spool C** = Bruker-Spaleck



Spools of the different suppliers

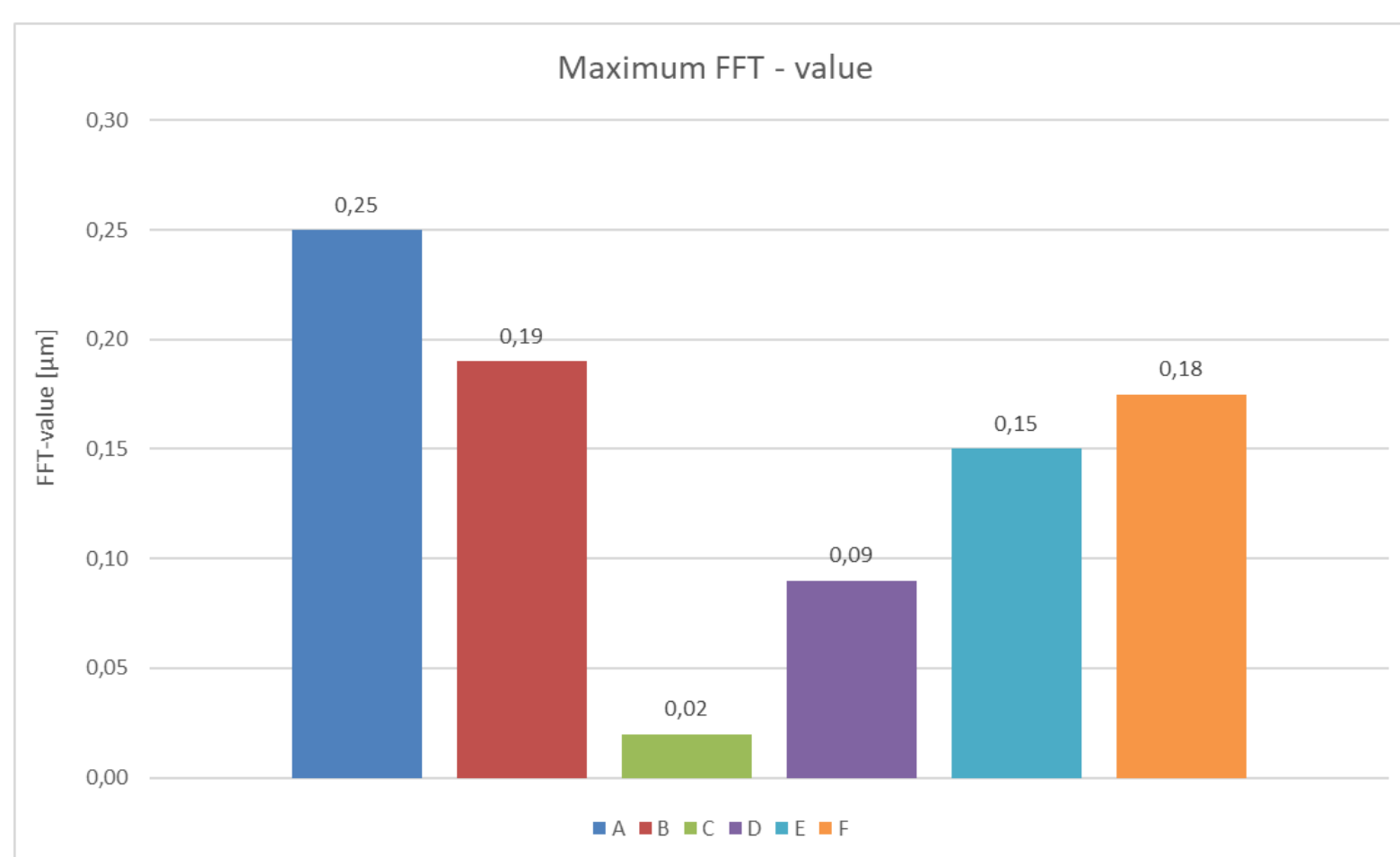
## FFT-analysis

- The FFT (*Fast-Fourier-Transformation*) is a common analytical method which makes the periodic thickness variation visible and evaluable
- Periodic thickness variation < 0,50 µm can be visualized
- In our in-house production, periodic thickness variations < 0.25 µm are defined as the manufacturing standard

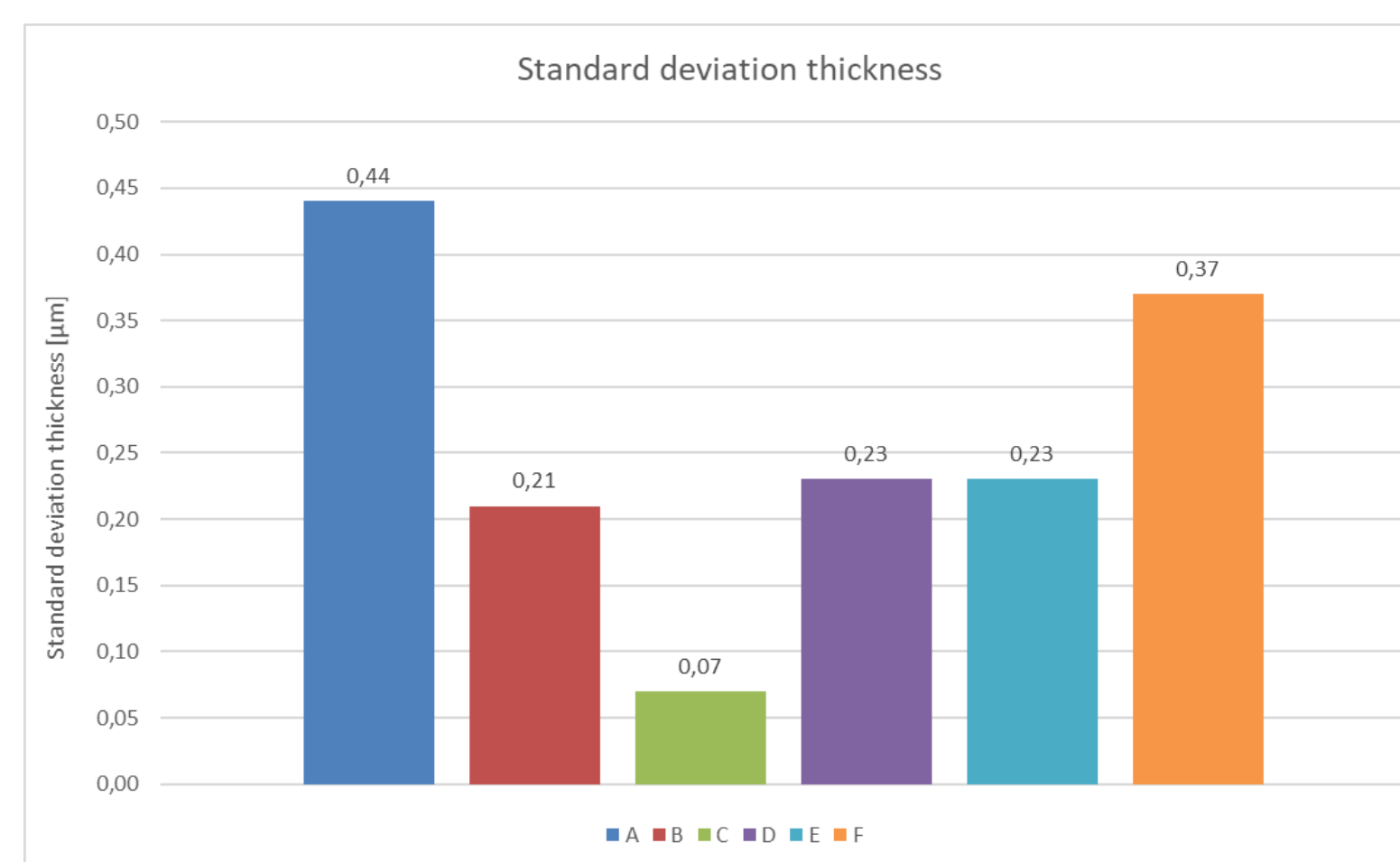


FFT-Measuring device at Bruker-Spaleck

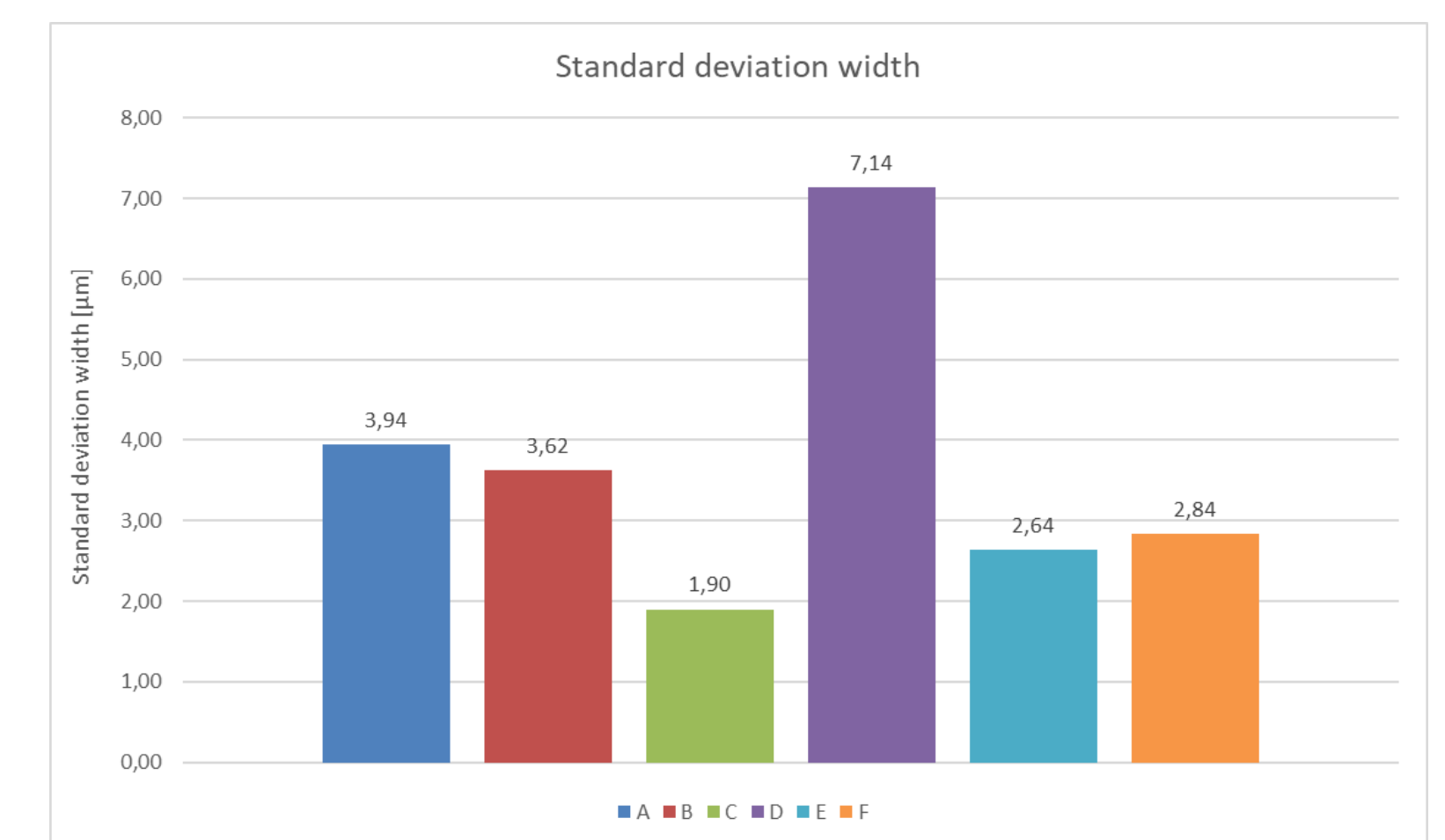
## Results



**Low FFT peaks =** low VSWR (Voltage Standing Wave Ratio), brings a more regular shielding with it

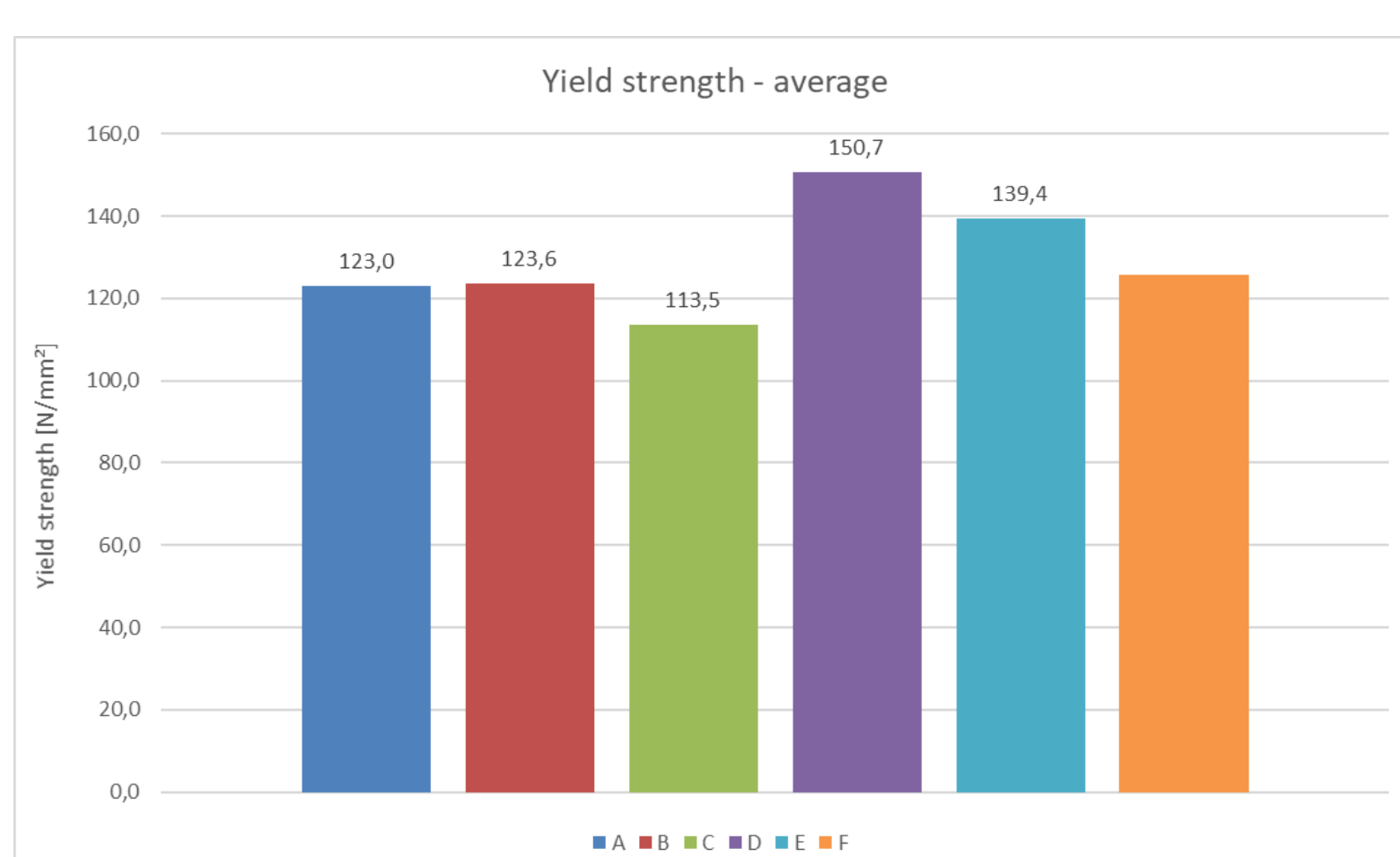


**Low thickness variation =** smallest thickness tolerances are realizable

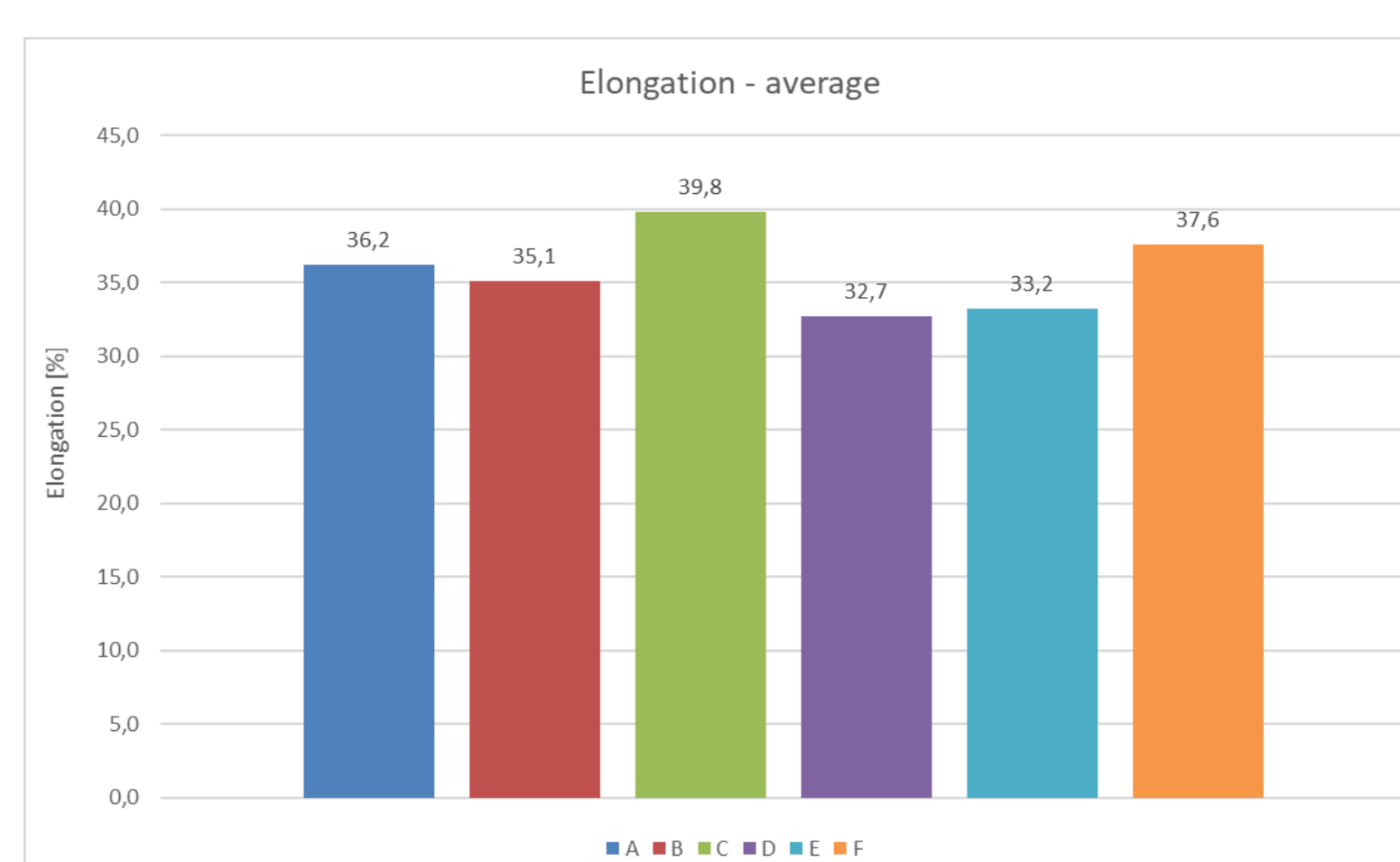


**Low width variation =** low VSWR (Voltage Standing Wave Ratio), brings a more regular shielding with it

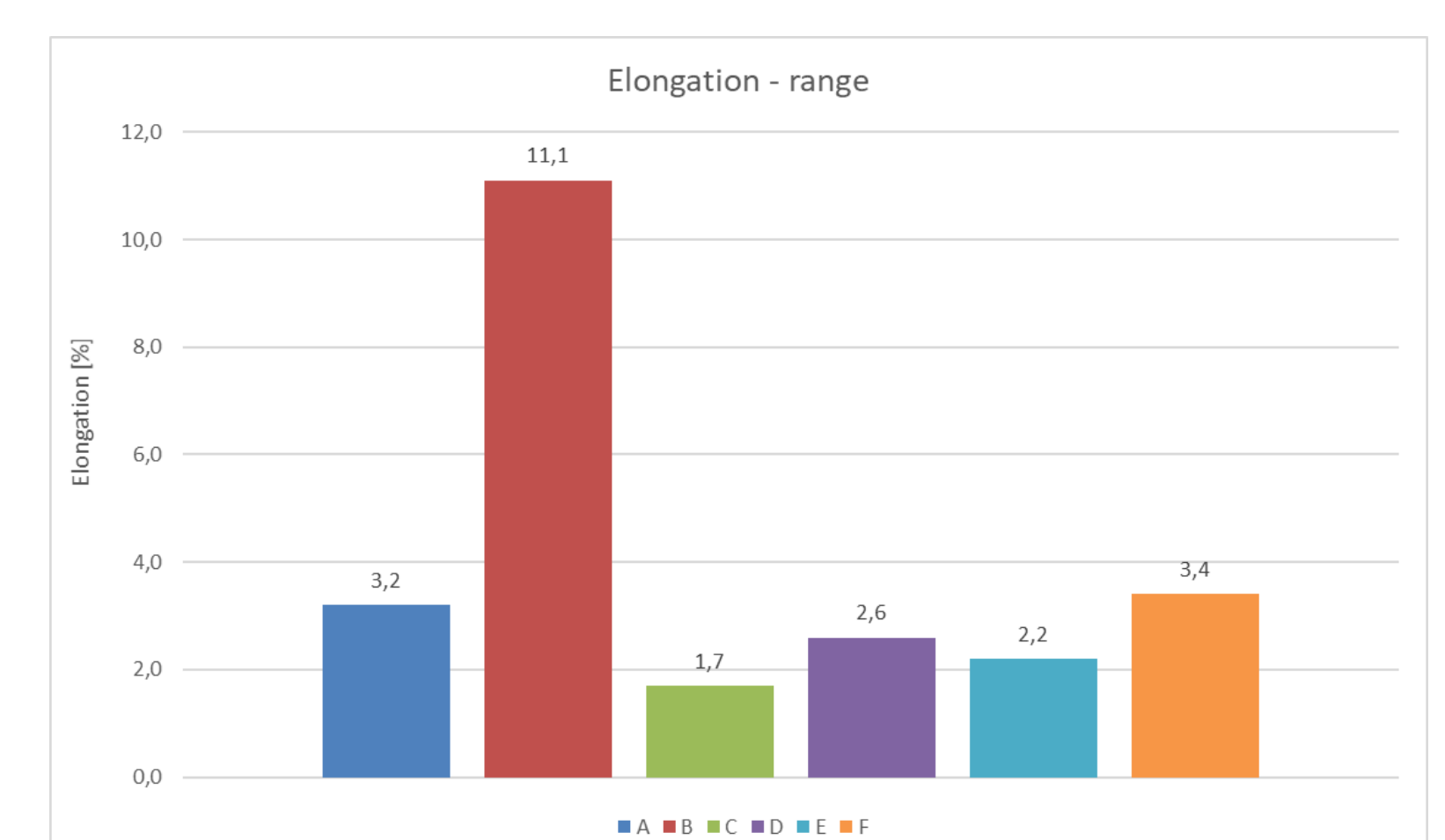
	Rating of the spools					
	Best result	>>>>>>>>				Worst result
FFT - measurement	C	D	E	F	B	A
Standard deviation thickness	C	D	B	E	F	A
Standard deviation width	C	E	F	B	A	D
Yield strength - average	C	A	B	F	E	D
Yield strength - range	B	A	C	F	E	D
Tensile strength - average	F	B	C	A	E	D
Elongation - average	C	F	A	B	E	D
Elongation - range	C	E	D	A	F	B
Conductance	F	C	B	A	D	E
Coating thickness - range	A	D	C	E	B	F



**Constant average of yield strength =** Increased winding quality and improved flexibility of the cable during the final application



**Constant average of elongation =** Increased winding quality and improved flexibility of the cable during the final application



**Constant range of elongation =** Increased winding quality and improved flexibility of the cable during the final application

## Further advantages of Bruker-Spaleck

- High-quality packaging concepts for transport and storage
- Customized spools
- No MOQ
- Short delivery times

## Latest measurement technology

- FFT-Measuring device
- Tensile testing machine
- Coating thickness gauge
- Ohmmeter
- Thickness-/ Width gauge

## Summary

- **In 60% of the checked parameters, the Bruker-Spaleck spool prevailed against the competitors and took the first place**
- In the remaining 40 %, Bruker-Spaleck **is among the top 3** of the global market leaders