

The string sound

Harpsichord makers and players are always looking for the ideal string material with the best sound. People speak about emphatic fundamental or about rich and bright sound with dominant partials. They speak about great brilliance, excellent sonority, tonal clearance, easy touch and strong continuous vibrating. For this again and again there are sporadically new theories which make the ideal sound dependent on only one factor. On the other hand there are many people who loose their curiosity because of so many complex implications.

We don't want to give fast and simple answers, but we would like to try to explain different physical parameters and their influence, so that musicians and instrument makers can make a certain choice for strings.

Of course people with a clear sound ideal can divide easily a sound in lovely and ugly. All ideals, also outside of the music, have got this duty. But those who want to keep their freedom and want to experiment, will need all information about the available material.

The following text should give a basic knowledge about string materials to make the decision easier. First of all is naturally that the string should not break. Harpsichord strings are available in a big spectrum of tear resistance.

The tear resistance (R_m) is dependent on:

- the type of material (iron, brass, copper, ...)
- the alloy within a type of material (CuZn28, CuZn15, ...)
- the way of production (diametre reduction, intermediate annealing, surface quality, ...)

There is no big problem to determine the tear resistance technically. Unfortunately it tells us only something about the point where it is already too late and the string is broken. In the practice there will be made a security subtraction of eg. 20% or one tone below the tearing limit. Of course these are arbitrary assumptions and also years of experiences are of no use if the new bought material does not have the absolutely same physical properties as that material used before.

That's why we invested much time and money in the string testing. You receive a detailed test report (without surcharge) to the string roles we deliver. The test report includes eg. the load deflection curve and practical hints for using the material.

