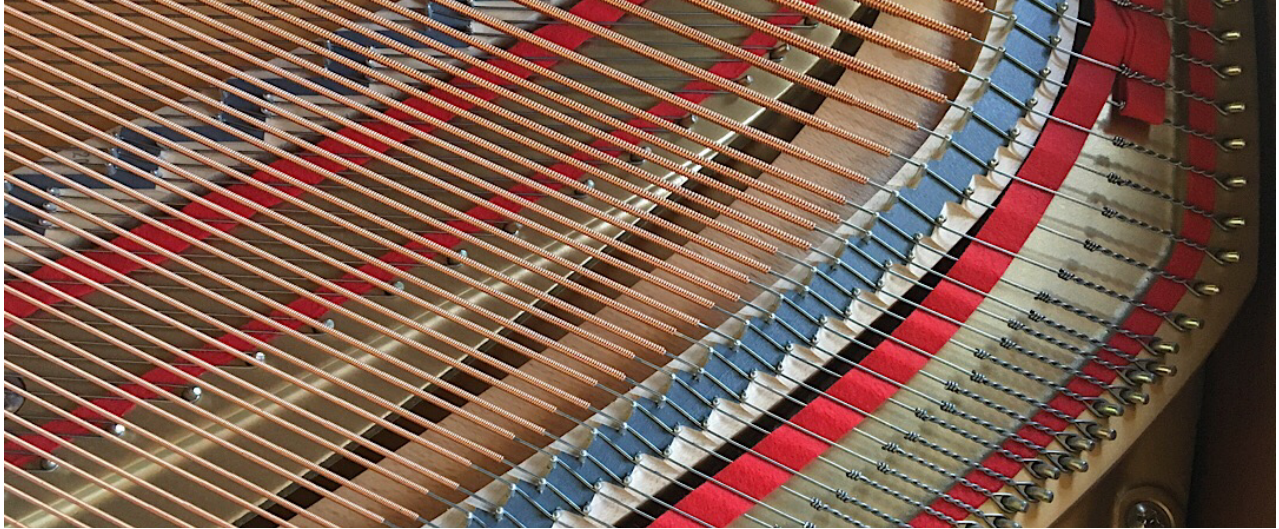




Modern music wire is made from high tension spring steel able to withstand over 190 lbs of tension!

Any acoustic piano you come across has a collection of wire inside reaching from one end of the instrument to the other. We call these strings, but based on the uniqueness of this wire, it may also be referred to as music wire. Historically, this wire was made of brass or iron. It worked well and had a specific sound. The tension on the early piano strings was fairly low and the breaking point of the brass or iron wire fit the needs of the piano. Modern music wire is made from high tension spring steel able to withstand over 190 lbs of tension! It comes in many thicknesses differing by only a thousandth of an inch in diameter. Any piano after the year 1880 has this type of wire in it.

I'm sure you are wondering about the strings on the left side of the piano that have an orange winding on them. These are referred to as wound strings. They have a steel wire as a core and copper winding around it. To create a low pitch like in the bass section of a piano, the wire needs to be either very long or very thick. If the wire was the correct length without being too thick, the piano would need to be 30 or more feet long! If the wire is the correct thickness, it is extremely rigid and would sound as though the hammer was hitting a metal pole. To accommodate these extremes, the thin core wire is wrapped in a soft outer wire to allow for appropriate thickness and length while remaining flexible enough to create a pleasing sound when struck and to help maintain a reasonably sized piano.



With all these variables, how does one decide which strings to put where? Manufacturers and piano rebuilders do something referred to as creating a stringing scale for the piano. They compile a list of measurements of length, thickness, breaking point, and intended pitch and use this data to make a chart of which string is needed for which note on the piano. Once the scale is figured out, the piano can be strung. Each string sounds the best at a certain amount of tension that is shown by the breaking point. This is why a piano will sound different tuned at standard pitch (Concert A440) than a piano with string tension much lower than standard pitch. Keeping your piano tuned at pitch is important for obtaining the best sound possible from the instrument.

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Looking toward the future, music wire is starting to be produced as a hybrid steel wire, some varieties with more iron than others and a lower breaking point. It also has a nickel plating that prevents the steel from rusting, keeping your piano's strings looking new for a long time. Some of this wire is great for restringing historical pianos that require a lower tension string scale than modern pianos. It is also wonderful for modern pianos in that a better sound is achievable from using hybrid wire that is the same length and thickness as regular music wire but at a tension that fits the scale better.

With over 230 strings on a modern piano, that's a lot to think about!