**1. To order a string chart (calculation of the gauges)**

When ordering a striging chart, I need some information from you, especially in three aspects.

1. Please let me know if the instrument is intended for frequent playing, or more for conservation purposes.

2. If the instrument have been restored in its structure, especially the wrest plank, soundboard and bridge.

3. Intended pitch for playing. It is debatable what an historic pitch should be, but more important is if the instrument will played on its own at whatever pitch or if it will be included in an ensamble that normally uses a=430 Hz. Some schools require them to be at a=440. Some other prefer a=415.

4. The year and maker of the fortepiano (if known).

**Calculation of the gauges**

These three factors will help me to decide if the instrument will hold a tension close to what originally had, or slightly less. The case of an unrestored instrument may or may not distort under the original tension. A recently restored one (i.e. around the last 30 years and being kept in good humidity conditions) should stand the original tension.

If the instrument is being restored and if you have most or all of the original strings and it’s easy for you, please label them individually and send them to me and I will work out the information from there, no calculation will be required. If you can’t send the strings or no longer know which string belongs to what note, then you can  measure the speaking lengths of each note of the covered strings section. Only the longest one of each pair is required. The speaking length is the part of the string that vibrates freely when sounding, i.e. the distance between the nut pin and the bridge pin. If you need a calculation for the whole instrument, then please include measurements for each note, in millimetres (sorry, my USA friends!). This is easily done if two people work in tandem to measure them, as both will move the measuring tape two pins along the nut (or bridge). If you are lucky to have a third person, they can write the measurements that you yell in a list, to avoid distraction from moving the tape (you will see why I recommend this once you start on your own). Try to get accurate measurements to the millimetre.

I will calculate the strings from that information. You can download an Excel template from the website or send a list like the following:

|  |  |  |  |
| --- | --- | --- | --- |
| Note  | Tuning pin to nut | Speaking length | Bridge pin to hitch pin |
| FF  | 30 mm  | 1457 mm  | 115 mm |
| FF#  | 32  | 1427  | 125  |
| Etc. | Etc. | Etc. | Etc. |

**2. To order strings**

The easiest way is to send any old string(s) by post, so I can copy all of their characteristics. Otherwise, I need the distance from tuning pin to the nut (this should be around 50 mm), then from nut to bridgepin, which is the speaking length (the part that vibrates freely when the string sounds), and the distance from the bridge pin to the hitchpin (for square pianos that have tuning pins at the back). Earlier pianos have the tuning pins on the right, but the three measurements are analogous. When measuring, try to be accurate to one millimetre The list should look similar to the one above this paragraph, or you can download an Excel template from the website.

If you need only a couple of strings and do not want to send them by post, and you have calipers or a vernier, please measure the core and the cover diameters. Also measure the length of the 'eye' (the helix and the eyelet that should be anything between 25 mm and 50 mm). Take and send at least one photo of the area of the missing strings by the hitchpins and or the tuning pins. This is for me to see if the string has any particularity that I should copy.

**When you receive the strings**

The strings will come with more wire length than needed. This is to give some extra for manipulating it. **It is not straightforward to fit covered bass strings**. Stringing a fortepiano with wrest (tuning) pins with no holes on them is more difficult, mostly because of the high tension and thick strings. If you are fitting these strings for the first time, you definitely have to see (through a video) how to do it. Brass wire is more delicate than iron and less forgiving, so it may break if you have to start again, especially if you cutted it to its final length. But obviously, after a few attempts one starts to get better and better. In any case, there is nothing like doing it, so I suggest you to try first with a plain brass wire (can be from any hardware store, in a thickness from 0.50 to 0.70 mm, if possible). Also, check that the pin holds tight enough in the plank as if you forget this and then need to extract the pin with the string already cutted to length, you may lose the string. Please do not hesitate to ask for guidance for it. This could be done via video call, or some written instruction.

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