General Comments

The purpose of hardness testing cane is to discern differences between pieces of cane and select those pieces which have the greatest potential for making excellent bassoon reeds.

Many reed makers sort cane into categories of hardness that are more appropriate for different styles of reeds. Others find a range of cane hardness that matches their style of reed making and only use this cane. Cane that is too hard or too soft is unlikely to become a useful reed. This will save you from investing time in a piece of cane that is unlikely to be useful, allowing you to maximize the return on your time investment.

To ensure consistent readings over time we recommend hardness testing your cane within the same environmental parameters (i.e. similar room temperature, humidty, etc.). Testing cane in a cold room versus in a warm room may result in variations in the measurements from the same piece of cane.

For digital hardness testers, we recommend always using the metric readout, as these measurements will be more in line with the readings from the analog hardness tester.

Using the Hardness Tester

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- Insert the cane as shown between the arbour and the measuring tip. The tip should be about 1 cm from the end of the cane.
  The rotating handle should be on the **right** side of the hardness tester
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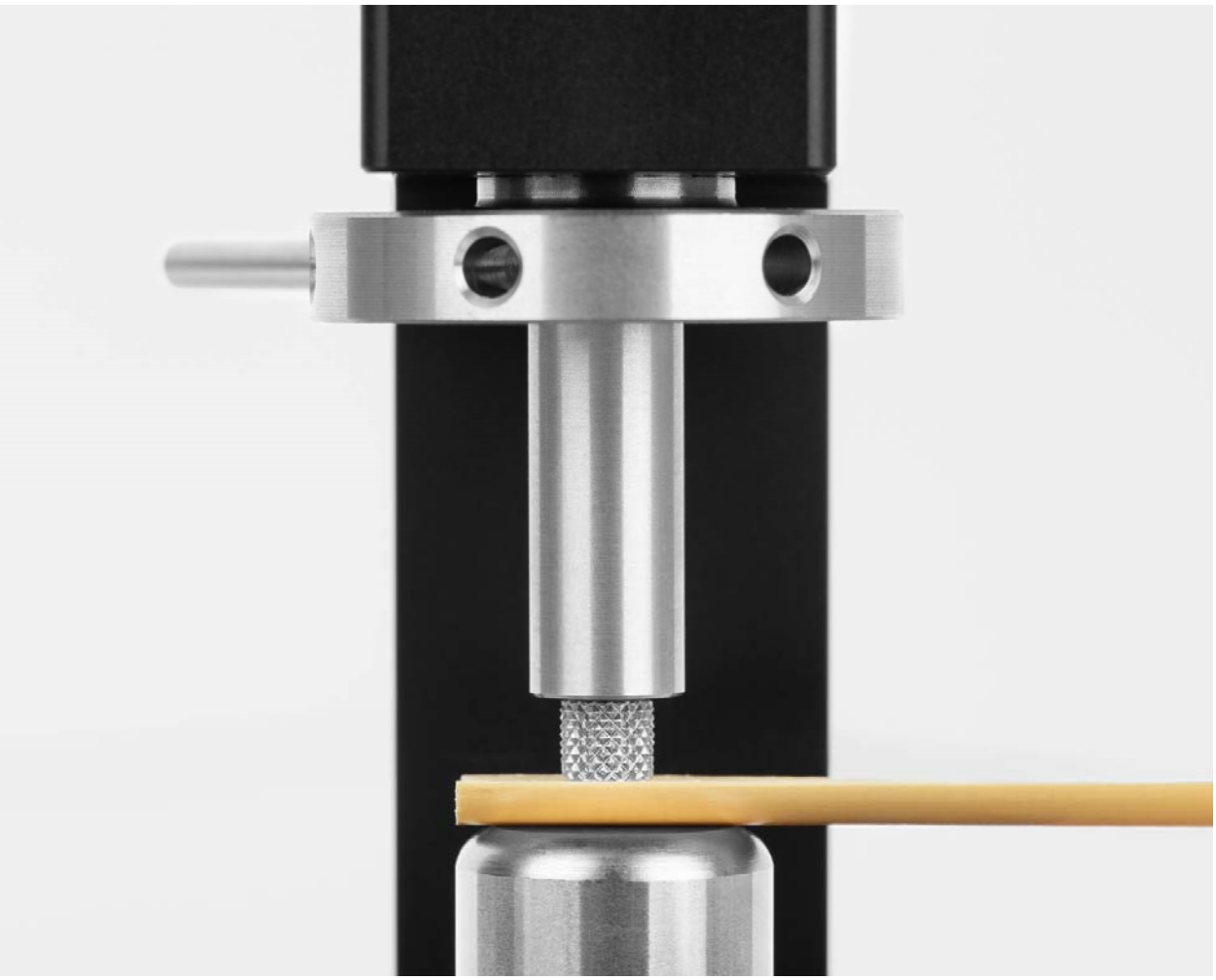

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o Zero the dial

Turn the rotating handle from the right side to the **left** side of the hardness tester.

After waiting 2 - 3 seconds for the measuring tip to settle, the hardness can be read off of the dial. Turn the rotating handle back to the **right** side of the hardness tester before attempting to remove the cane from the hardness tester.

Be sure to test the hardness at **both** ends of each piece of cane. The average of these two numbers is the overall hardness of the piece of cane. Should the measurements be more than 4 apart (i.e. 12 and 17, or 0.12 and 0.17 mm) then that piece of cane is unlikely to produce satisfactory results.

Zeroing the Dial

It is important to zero the dial for each piece of cane being measured. This will ensure accurate measurements, and should be done after inserting each piece of cane.

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  - **Analog**

Rotate the dial so it is reading "0."

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- o **Digital**

Press the "Zero" button.

Reading the Hardness

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    - **Analog**

Read the small red numbers to find the hardness of the cane.

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- **Digital**

The readout will now read the hardness of the cane. You can ignore the negative as well as the decimal.

The hardness tester measures how far the measuring tip is pressed into the cane. Therefore the following relationship is relevant:

- Smaller numbers = harder cane
- Larger numbers = softer cane