

# Beta Precision Digital Electronic Ruler

## Q&A

---

- **How do you arrange the sample for measurement of the width?**

The Electronic Ruler is placed directly on the sample, accurately perpendicular to the edge. The near edge is sighted through the microscope, centering it on the vertical cross hair using the fine-motion roller. The display is then zeroed. The display and microscope are then moved to the far edge of the sample. The edge is then sighted through the microscope, centering it on the vertical cross hair using the fine-motion roller. The exact distance traveled is displayed on the LCD.

- **What background do you recommended to use so that both edges of the sample are convenient and easy to see?**

You must do some testing using your sample and various backgrounds and lighting configurations. Sometimes a black background is useful with transparent samples.

- **What kind of maintenance do you recommend for the Beta Precision Digital Electronic Ruler?**

The button battery should be replaced every year. Contamination of the beam with dust or dirt should be removed with a dry cloth.

A clean cloth should be wetted with a few drops of light machine oil, and applied to the narrow edges of the beam every few months, depending on usage and ambient conditions.

- **Does Beta Precision Digital Electronic Ruler come with a Certificate of Calibration issued by a calibration service company when purchased?**

The PUBLISHED accuracy of a 610mm device is +/- 0.08mm (80 microns). Any device we ship will NOT have an error larger than that over any interval.

An individual device Certificate of Calibration is available at additional cost.

The Certificate of Calibration for the device that we ship to you will show the ACTUAL error over every 150mm. The ACTUAL error is usually significantly smaller than the PUBLISHED error.

The Certificate of Calibration for your specific device is created by an accredited Metrology Laboratory. Their credentials and test conditions are provided with the Certificate.

- The accuracy of the **Beta Precision Digital Electronic Ruler** is dependent upon the range of the device as shown below:

RANGE (inch/mm)	TOLERANCE (inch)	(mm)
16 / 406	+/-0.002	+/-0.05
24 / 610	+/-0.003	+/-0.08
30 / 762	+/-0.004	+/-0.10
32 / 813	+/-0.004	+/-0.10
36 / 914	+/-0.004	+/-0.10
40 / 1016	+/-0.005	+/-0.12
48 / 1219	+/-0.005	+/-0.12
60 / 1524	+/-0.006	+/-0.14
80 / 2032	+/-0.008	+/-0.20

- **The Beta Precision Digital Electronic Ruler consists of 3 components: the beam, the digital display, and the microscope. Which of these parts are calibrated and written on the calibration certificate?**  
The Certificate of Calibration covers the beam and the digital display. The microscope is used only for sighting the edge of the sample.

- **When using the Beta Precision Digital Electronic Ruler to measure a thin plastic sheet, is there any ASTM testing standard code to be complied with?**  
Compliance with any ASTM standard is solely the responsibility of the user. Good Manufacturing Practice should be employed regarding stabilized temperature, handling, and preparation of the sample.

- **What type of microscope do you recommend for ease of use and good accuracy?**  
The lower the magnification of the microscope, the easier it is for the operator to keep the sample in good focus. The 25X microscope is very easy and comfortable to use.  
One division on the internal reticle corresponds to 0.050mm.  
Low magnification increases the uncertainty of the sighting of the edge of the sample.
- The 50X microscope allows better accuracy in sighting the edge of the sample and correspondingly more precise and repeatable measurements.  
One division on the internal reticle corresponds to 0.020mm. This is the most commonly used microscope.

The 100x microscope has extremely limited depth of focus and is more difficult to use.  
One division on the internal reticle corresponds to 0.005mm.

This is far greater than the accuracy of the **Beta Precision Digital Electronic Ruler** and does not produce better or more useful results.