



We dedicate ourselves to frequency controls field...

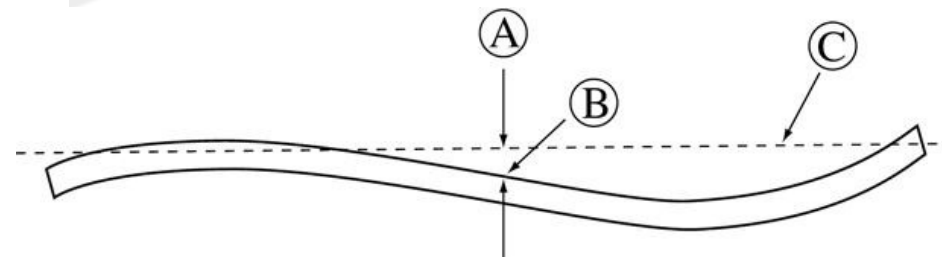
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FlatMaster® for Wafer Applications

Parameters include Bow/Warp/TTV/LTV/SORI

- Bow

Bow is the difference between the three point focal plane and the surface height of the unclamped (free state) specimen at the center point. Bow measurements may be positive or negative and are reported as such. If the center point of the specimen falls below the focal plane, then the value of the measurement is negative, if the centerpoint is above the focal plane, the value is positive.



A – Reported BOW
B – Centerpoint
C – 3-point focal plane

CHINA QUARTZ TECHNOLOGY



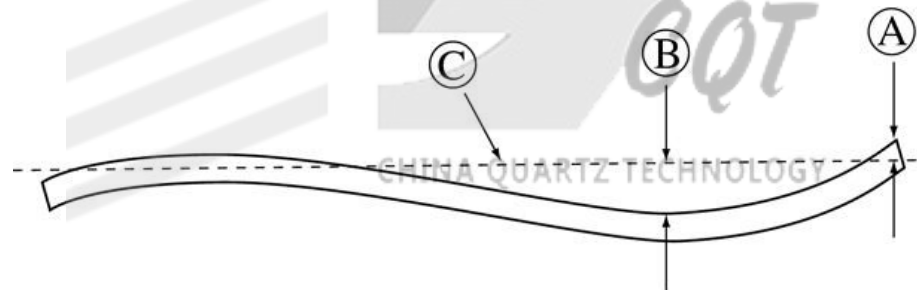
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-Warp

Warp is the maximum distance between the highest and lowest point on the surface of an unclamped (free state) specimen from the three point retilt focal plane. The value for warp measurements is always positive.

$$\text{Warp} = |\mathbf{A}| + |\mathbf{B}|$$



A: Maximum distance above the 3-point focal plane.

B: Maximum distance below the 3-point focal plane.

C: Global 3-point focal plane.

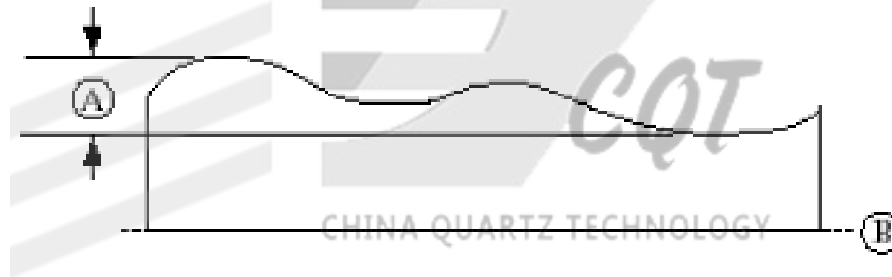


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- TTV (Total thickness variation)

Total thickness variation is the difference between highest and lowest elevation of the front surface with respect to the back surface



A: TTV

B: Back referenced surface

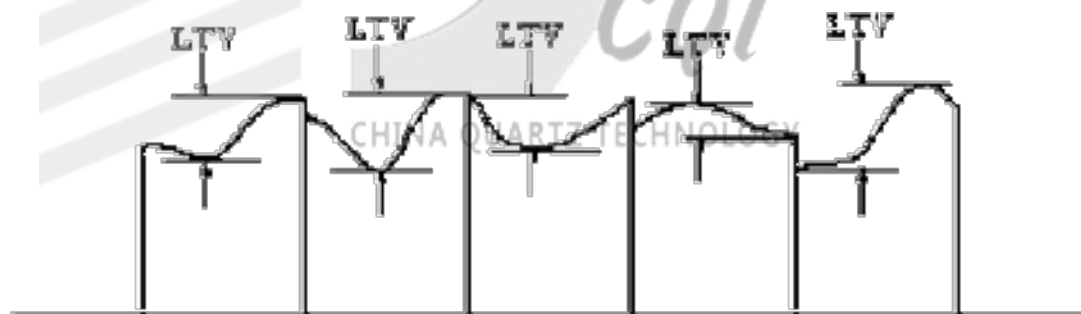


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-LTV (Local Thickness Variation)

Local Thickness Variation is the difference between the highest and lowest elevation within each exposure site on the wafer. The LTV measurement is performed with the back surface plane parallel to the reference surface of the interferometer.



Local Thickness Variation



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-FPD (Focal Plane Deviation)

Focal Plane Deviation is the greater distance either above or below an established focal plane. For FPD measurements, the three-point retilt focal plane is used. FPD measurements may be positive or negative; if the greatest distance from the surface of the specimen to the focal plane is above the plane, the value is positive, if the greatest distance from the focal plane is below the plane, the value is negative.



A Maximum distance above the Best Fit Focal Plane

B Maximum distance below the Best Fit Focal Plane

C 3-Point retilt focal plane

Other parameters refer to other documents



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SORI

Sori is the maximum distance between the highest and lowest point on the surface of an unclamped (free state) specimen from the least squares plane. The value for Sori measurements is always positive.

