



Geometrical Flatness Parameters

Parameter

Definition

Global parameters

TTV

Total Thickness Variation

Difference between the maximum and minimum values of the wafer thickness with the wafer clamped.

$$TTV = |A| + |B|$$

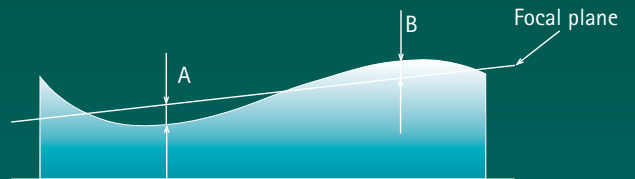


TIR

Total Indicated Reading

Sum of the maximum positive and negative deviations from the best fit plane with the wafer clamped.

$$TIR = |A| + |B|$$



Warp

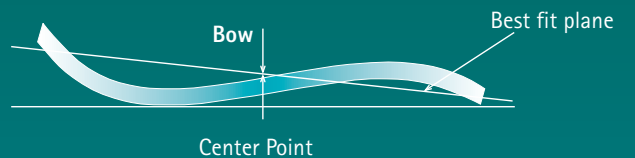
Sum of the maximum positive and negative deviations from the best fit plane with the wafer unclamped.

$$Warp = |A| + |B|$$



Bow

Distance between the surface and the best fit plane at the center of an unclamped wafer.



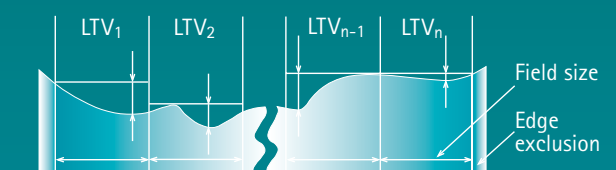
Local parameters

LTV

Local Thickness Variation

Difference between the maximum and minimum values of the wafer thickness within a field of specified size with the wafer clamped.

$$LTV = \max(LTV_{1..n})$$



LFPD

Local Focal Plane Deviation

Maximum distance between the surface and the best fit plane, either above or below, in a field of specified size with the wafer clamped.

$$LFPD = \max(LFPD_{1..n})$$

