

APPLICATION NOTE:

END CAP MEASUREMENTS

This application note details the various results shown on the Product Data Report (PDR) supplied with our end cap free-space coupler products.

End cap main angle and complementary angle

The “end cap main angle” is the measured value of the polishing angle measured with an interferometer. The value supplied is the relative orientation of the polished plane with respect to the end cap fixture, as shown in figure A. The “end cap complementary angle” is the parasitic surface inclination in the direction perpendicular to the main polishing direction, as shown in figure B.

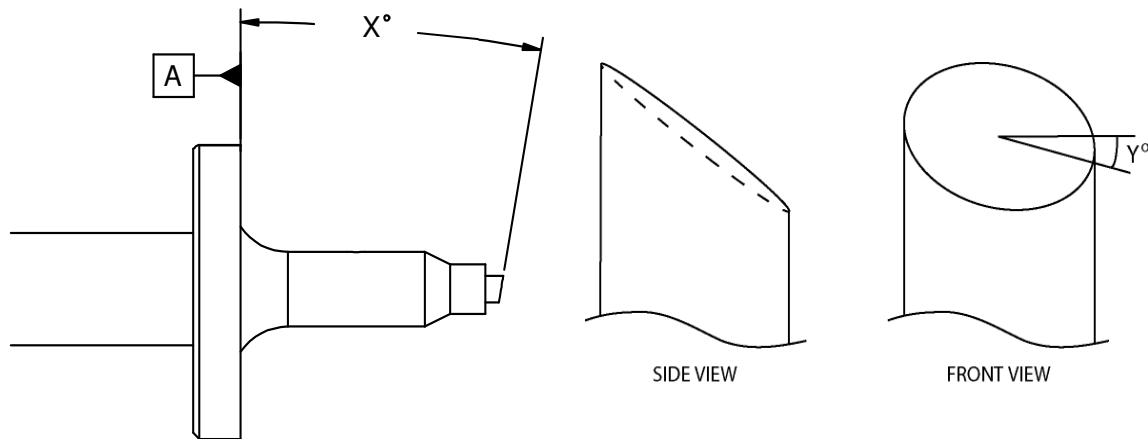


Figure A: End cap main polish angle X

Figure B: End cap complementary angle Y

Peak-to-valley and wavefront distortion

The “Peak-to-valley” value represents the total extent, in height, of the end cap surface perpendicular to the polishing plane. This value is more typically noted as “wavefront distortion” and is measured in units of λ . Values in the report are noted in nanometers but can readily be converted to wavefront distortion values, “ $\lambda/\#$ ”, through the following formula:

$$\# = \frac{\text{Peak - to - valley value}}{\lambda_{\text{operation}}}$$