

## ~ Endurance Test on Dental Spindle Bearing ~

Purpose : Because dental spindle cut the teeth sharply with ultra high speed rotation, the applied bearings are to be placed in a severe condition. Especially the retainer has to sustain an extra load. The design concept of bearing and retainer which include accuracy level and material choice would be the major factors to retain higher performance and longevity.

We have conducted following endurance test to determine the bearing design and its accuracy.

Model : Spindles from Japanese dental hand piece manufacturer

Test Method :

- 1 ) Consecutive rotation :  $400,000\text{min}^{-1}$  (rpm) ~  $450,000\text{min}^{-1}$  (rpm)  
1 cycle = Load ( $F_a = 1.5\text{N}$ ) 7sec + No -load 8sec = 15sec
- 2 ) Lubes Dental oil spray every 3hrs + Holding period 1hr
- 3 ) Tested Period 200hrs
- 4 ) Tested Qty 5 hand pieces ( Bearing:10pcs )

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