## APTZNA  75% TZP-25% Al₂O₃

| CHEMICAL COMPOSITION | 64.5%wt ZrO₂ + HfO₂  
|                      | 25%wt Al₂O₃  
|                      | 10.5%wt Y₂O₃ + CeO₂  
|                      | <200 ppm SiO₂  
|                      | <200 ppm Na₂O  
|                      | <50 ppm Fe₂O₃  

* by difference

| PHYSICAL PROPERTIES | Mean grain size  
|                     | 0.5±0.1 µm  
|                     | Sintered density  
|                     | 5.4 g/cm³  
|                     | Bending strength at 20°C  
|                     | 1000 MPa  
|                     | Hardness Hᵥ₀.₅  
|                     | 1300 Hv  

| THERMAL PROPERTIES | Thermal conductivity at 20°C  
|                   | -  

| ELECTRICAL PROPERTIES | Dielectric constant at 25°C-1MHz  
|                       | -  
|                       | tan δ  
|                       | -  
|                       | DC Volume resistivity at 25°C  
|                       | -  
|                       | Dielectric strength at 3mm  
|                       | -  

## MICROSTRUCTURE

![Microstructure Image](image)

## KEY FEATURES

Good mechanical properties, no hydrothermal aging

## TYPICAL APPLICATIONS

Hip joint implants, surgical instruments, thermal insulators in resectoscopy, pump components, wear resistant components, valve seals, bushings, cutting tool inserts.