

YSZ – Yttrium Stabilized ZrO₂ (Zirconium Oxide)

MATERIAL PROPERTIES

Structure formula:	ZrO ₂ :Y(9.5% Y)
State:	monocrystalline (twin free)
Crystal structure:	cubic a = 0.5125 nm
Melting point:	2780°C
Thermal expansion coefficient:	8 * 10 ⁻⁶ /°C
Dielectrical constant (ε):	27

SUBSTRATE PROPERTIES

Production method:	Skull method
Orientation:	(100)
Orientation accuracy:	≤0.5°
Standard size:	10mm x 10mm x thickness 0.5mm
Tolerance of length:	+0 / -0.05mm
Tolerance of thickness:	+0 / -0.02mm
Parallelness:	≤0.02°
Polishing:	Standard: one side epi-polished
Flatness:	≤1μm / 10mm
Roughness of surface:	R _{max} ≤4nm (average Ra = < 1nm)
Scratches:	none
Surface quality:	with light microscope without defects

