

TECHNICAL DATA SHEET

(DB+ LUX SINT)

1. Material Description

Chemical Name & Formula: Yttria partially stabilized zirconia – Y₂O₃ PSZ

2. Chemical composition

ZrO₂ + HfO₂: ≈ 94.6 %
 Y₂O₃: ≈ 5.35 %
 Al₂O₃: ≈ .05 %

III. Physical Data

Physical form : Polycrystalline structure
 Boiling Temperature : NA
 Melt Temperature °C : 2730
 Vapour Pressure : NA
 Evaporation Rate : NA
 Specific Gravity : NA
 Density g/cm³: 6,08
 Water Solubility : Insoluble
 Color : translucent white
 Odor : None

IV. Mechanical Properties at Room Temperature

Water Absorption	%	:	0
Vickers Hardness	(HV)	:	1250
Flexural Strength	MPa	:	1100
Fracture Toughness	MPa m ^{0,5}	:	5
Young 's Modulus	GPa	:	170
Thermal Conductivity at 20°C	W/m*k	:	2,68
Maximum service temperature	°C	:	1000
Transmittance (D65)	%	:	41
Thermal Expansion Coeff.	x10 ⁻⁶ °C ⁻¹	25 ÷ 400°C	: 10,3
		25 ÷ 800°C	: 11,0
Thermal Shock Resistance	ΔT°C	:	300

V. Physical and Chemical Properties

Excellent chemical and wear resistance. High value mechanical loads.
 Low resistance to HF (Hydrofluoric acid - highly concentrated solutions).

Before using the DB+LUX , this pre-sintered form must be sinterized at 1450°C in order to obtain DB+ LUX SINT.

VI. Fire and Explosion Data

Flashpoint : NA
 Auto - Ignition Temperature : NA
 Flammability Limits in Air : Upper: Lower : NA

The product is not flammable
 Not an explosion hazard

Please, note that all the values quoted are based on test pieces and may vary according to component design. These values are not guaranteed in any way and should only be treated as indicative values. They should be used for guidance only and for no other purpose.

BETTINI Spa

Via Industriale, 11 I – 23804 Monte Marenzo (LC) - Italy

Phone +39 0341 63 15 88 - Fax +39 0341 63 15 89

E-mail: box@bettini-spa.it - Website: www.bettinidental.it