

Materials and Methods

Zirconia with different translucencies (27%¹, 33%², 40%²) were used in this study. A feldspathic porcelain³ was used for comparative purposes. Samples of zirconia with different thicknesses, ranging from micrometric to millimetric, and feldspathic porcelain, were produced. Tests of colour (Cielab) were performed in a spectrophotometer (Minolta CM 2600d). The Translucency Factor, (TF), $TF = [(LW-LB)^2 + (aW-aB)^2 + (bW-bB)^2]^{1/2}$, was used to quantify translucency. In the equation 'a' and 'b' refer to colour coordinates and 'W' and 'B' refer to white and black background, respectively.

Material	Material Brand Name	Material supplier	Translucency (TF) (%) (thickness)	
MicroZr™ Veneer manufacturing process (Opaque zirconia)	DD TempMED HI	Dental Direkt	27% (0,5 mm)	50% (0,05 mm)
MicroZr™ Veneer manufacturing process (Extra Translucent)	pritti@multidisc ZrO2 multicolor	Pritidenta	33% (0,5 mm)	54% (0,05 mm)
MicroZr™ Veneer manufacturing process (High Translucent)	pritti@multidisc ZrO2 multicolor	Pritidenta	40% (0,5 mm)	58% (0,05 mm)
Feldspathic Porcelain	VITABLOCS RealLife 1MIC	Vita Zahnfabrik	53% (0,5 mm)	Impossible to obtain

Conclusions

Results show that translucency of MicroZr™Veneers is equal or higher than feldspathic porcelains.

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MicroZr™ Veneers

Optical Properties -Translucency



Abstract

Optical properties of dental veneers are a key aspect on final aesthetics of restored tooth. Recently, translucent zirconia arrived to the market. Although high translucent zirconia (TF=49%) is still below the translucency of feldspathic porcelain (55%), the low thickness of MicroZr™Veneers (≤ 0,1 millimeters) allows to have translucency equal or higher (58%) to the best porcelains.

