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**HARDNESS BEHAVIOR OF ZIRCONIA/PORCELAIN COMPOSITES FOR DENTAL APPLICATIONS**

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Porcelain based materials are brittle materials and susceptible to flexural fracture, which generally fail in tension due their limited ductility. In this case, the use of reinforcement is very important, some materials are used as the zirconia, due the superior mechanical properties by transformation toughening mechanism, similar to the exploited in quenched steel and aesthetics performance. The hot pressing is an excellent technique to produce zirconia/porcelain composites, promoting the full contact between based materials, producing materials flawless, i.e., absence of undesired porosity and small cracks. Therefore, this work aims to evaluate the effect of zirconia content (10, 20 and 30% vol%) in porcelain matrix on hardness behavior. The composites were produced by Hot Pressing Technique at 970°C and 2 min of stage, in vacuum. The indentation cracks were done on each specimen. The results showed that the increase of zirconia content increased the Microhardness of 613/6.0 to 661/6.5 Hv/GPa. The SEM micrographs showed the presence of zirconia sintered agglomerates into porcelain matrix, that act as reinforce increase the mechanical properties of composites. The best hardness behavior was observed for composites (30% vol.%), be indicate for dental applications.