

Press Release

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International

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It's not just the hardness that counts - Monolithic full-contour restorations made by zirconium oxide material from WIELAND

Dental laboratories worldwide are following the trend rapidly, moving to a monolithic full contour restoration as an attractive alternative to layered porcelain restorations.

In a chewing simulation study by the University of Zurich, ZENOSTAR crowns, the new monolithic material from WIELAND, was convincing due to its low abrasive impact on ceramic materials and antagonists.

Starting **March 2010**, WIELAND introduced a translucent material to the dental market and offers an easy and reliable method to manufacture monolithic restorations from zirconium oxide. This restorations has been given the name ZENOSTAR. The product incorporates the frame material zirconium oxide (zirconium dioxide), which is shaped the same as the natural tooth (full contour) in the ZENOTECH T1 milling unit. Before WIELAND introduced this product onto the market, the University of Zurich was commissioned to carry out a study in which the abrasive behaviour of the ZENOSTAR restorations and antagonists should be examined.

The abrasion behaviour was compared against abrasion of natural tooth, a non-precious crown and a porcelain veneered zirconium oxide restoration. The test was carried out with 6 of each test specimens, on which a force of 50 Newton was exerted over 1.2 million cycles in an aqueous environment with temperature changes. The 1.2 million cycles stand for a period of wearing of 5 years. This simulation showed that the polished ZENOSTAR crown produced the lowest level of abrasion on the material and also caused the lowest abrasion on the antagonists. However, it also showed how important polishing is. The unpolished but glazed ZENOSTAR crown caused the highest level of abrasion on the antagonists. This is the result after the loss of the glaze layer under which the rough, unpolished zirconium oxide appears. In order to be able to apply a glaze layer to smooth polished zirconium oxide, WIELAND has developed a glaze spray, which be available soon.

The safe way is: either just polish the ZENOSTAR crown or polish and glaze it. In any case, the polished ZENOSTAR crown is less abrasive in the 5-year simulation than a non-precious (CoCr) alloy or a veneering ceramic and gentler even than the natural tooth in this respect.

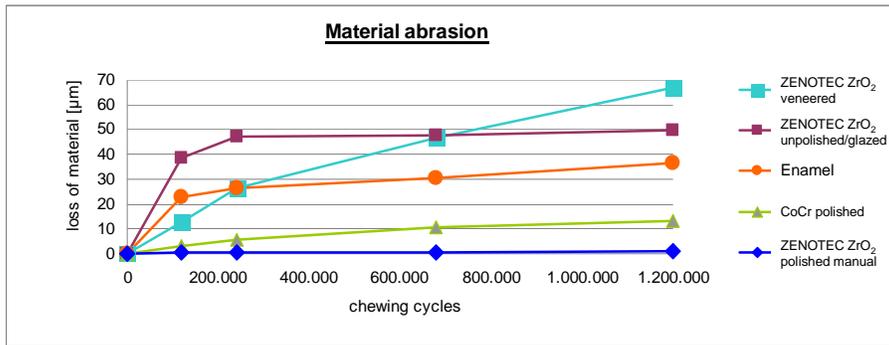
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ECONOMIC MIRACLE T1



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ZENOSTAR - Abrasion (Clinical Study)



„Stawarczyk B & M Özcan (2010 in preparation) Chewing tests for different dental materials, Dental Materials Unit, University Zürich.

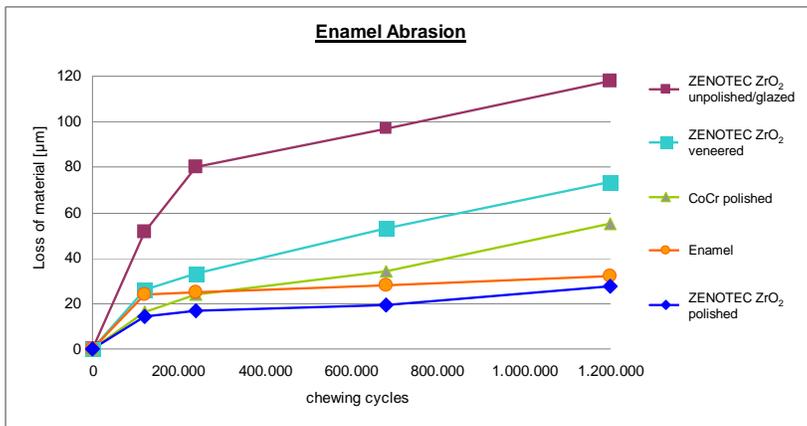
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