



## **It's not just the hardness that counts – Chameleon Fortress Zi© the Monolithic full-contour zirconium oxide restoration from David Sheppard Ceramics.**

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, Chameleon Fortress Zi© crowns, the new monolithic material from **David Sheppard Ceramics**, was convincing due to its low abrasive impact on ceramic materials and antagonists.

Starting **April 2010**, **David Sheppard Ceramics** – through its partners - introduced a translucent material to the dental market and offers an easy and reliable method to manufacture monolithic restorations from zirconium oxide. This restoration has been given the name Chameleon Fortress Zi©. The product incorporates the frame material zirconium oxide (zirconium dioxide), which is shaped the same as the natural tooth (full contour) in our CAD/CAM milling machines. Before **David Sheppard Ceramics** introduced this product onto the market, the University of Zurich was commissioned to carry out a study in which the abrasive behaviour of the Chameleon Fortress Zi© 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 Chameleon Fortress Zi© 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 polished Chameleon Fortress Zi© 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.