

7 SUMMARY

The PROCERA CAD/CAM-technology (S-NobelBiocare) is capable to produce allceramic crowns, made of densely sintered high purity alumina core combined with a low fusing ceramic veneering. The aim of this in-vivo-study was to evaluate the external marginal gap (marginal opening) and internal adaption. 40 PROCERA AllCeram crowns were manufactured and cemented. The method selected to measure the precicion of fit was an internal silicon-replica of the gap between the all-ceramic crown and the prepared tooth.

The mean gap for external marginal gap was 50,5 μm for front and lateral teeth.

Front teeth showed slightly higher gaps (60 μm) as lateral teeth (45 μm).

Regarding to the shape of the preparation there is no significancy between front and laterals for the marginal opening.

The marginal gap for a deep chamfer preparation was significantly higher to a slight chamfer preparation.

All-ceramic single tooth restauration produced with the PROCERA technology was well within the clinical accepted range for external margin al gap dimension of less than 100 μm .